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Gray

Tortoises, Crocodiles
& Amphisbaenians
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CATALOGUE

OF THE

TORTOISES, CROCODILES,

AND

AMPHISBÆNIANS,

IN

THE COLLECTION

OF THE

BRITISH MUSEUM.

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INTRODUCTION.

The chief object of preparing the present Catalogue, has been to give at one view a complete Synopsis of all the specimens of Shielded Reptiles at present in the British Museum collection, and an account of the species known to exist in other collections, but which are at present desiderata to the British Museum, so as to enable travellers, collectors, and others, to assist in completing the national collection.

For this purpose a synoptic description has been given of all the genera and species of the shielded reptiles at present known to exist in the different museums and private collections, and at the end of each description is added an enumeration, stating the state, age, country, and other peculiarities of each specimen of the kind in the Museum collection; or when the species is not at present in that collection, the museum in which it has been observed is added after the general habitat of the species. The different individuals of each species containedin the British Museum collection, are indicated by the letters *a*, *b*, *c*, &c.

When the age of the specimen is not stated, it is to be understood that it is full grown, or nearly so; when otherwise, its state is marked immediately after the letter by which it is distinguished; and if the sexes are known, it is stated to be male or female. These particulars are followed by the habitat, which is given as particularly as the materials possessed by the Museum permit.

Those specimens which have been presented to the Museum have the name of the donor marked immediately after the habitat. When there is no such indication, the specimens have been either purchased, or procured in exchange; and in this case, whenever the place or person from whom they have been received gives authenticity to the specimen, or adds anything

of moment to their history, they are noted as being from such or such a collection.

In the adoption of generic and specific names, it has been thought right to use, whenever it was possible, that which was first applied to the species. As far as regards the specific names, there is comparatively little difficulty in the application of this simple rule; but generic names have been used by different authors in senses so widely different, and the groups which they were meant to designate have been so variously extended or restricted, that it is no easy matter to determine, where several names have been used, which of them ought to be preferred. And as every original observer will constantly make use of characters which others may have overlooked, or not thought of so much importance as he may be inclined to attach to them, even when a generic name is used, it will of necessity be often employed in a different sense, or with a more restricted or extended meaning than its original proposer applied to it.

It is needless, however, to enter into the details of nomenclature, further than to observe that to the name adopted for the genus is appended the specific name under which the animal is believed to have been first described. If the generic name adopted be different from that employed by the establisher of the species, his name immediately follows it as a synonyme; and where the animal has received more than one specific name, these names are also given. But it has been thought unnecessary to load the Catalogue with any other generic names, where no change has been made in the specific, as it has been considered that these names will be sufficient for all the purposes of identification.

In those cases where the two sexes of the same species, or any particular individual state or variety belonging to it, has been differently named, such names (belonging exclusively to the state or individual so described) are placed after the reference to the specimen to which they generally apply.

To determine with accuracy the names and synonymes of the species, the Museums of Paris, Leyden, Vienna, Berlin, Francfort, &c., have been personally examined. Many of the specimens in the Museum collection have been received from the original describers, and most of them have been examined by M. G. Bibron, one of the authors of the *Erpétologie*

Générale, ou Histoire Naturelle Complète des Reptiles, now in the course of publication at Paris. So that there is every reason to believe they are named in perfect accordance with those in the various continental collections.

The specimens presented by

Sir Joseph Banks, may be regarded as the type of the species described by Dr. Shaw.

Thomas Bell, Esq., as the types of species described by him in his various papers, and in his very beautiful Monograph of the Testudinata.

The Earl of Derby,

Sir Everard Home,

Capt. William Chambers, R.N.

Alexander Collie, Esq.

John Gould, Esq.

General Thomas Hardwicke,

Dr. John Richardson,

John Reeves, Esq.

John Russell Reeves, Esq.

Colonel Sykes, and

J. Whitfield, Esq., as the types of the species described by me in the *Synopsis Reptilium,* the *Illustrations of Indian Zoology,* the *Proceedings of the Zoological Society,* and other journals and books of travels.

The Royal Society, as the types of the species described by Pennant in the *Philosophical Transactions,* or figured by Grew in his *Museum.*

Dr. Rüppell, as the types of the species described in his *Fauna of Abyssinia.*

The Hon. East India Company, as the types of the species described by Dr. Cantor, in his *Fauna of Chusan.*

Dr. Richard Harlan, and

Messrs. Edward and Henry Doubleday, as the types of the North-American species described by Say, Harlan, and others.

The specimens purchased or procured in exchange from

The Francfort Museum, as the types of the species described by Dr. Rüppell.

The Leyden Museum, as the types of the species described by Dr. Schlegel in his *Fauna of Japan,* or other works on reptiles.

The Paris Museum, as the types of the species described by M. G. Bibron.

The South African Museum, as the types of the species described by Dr. A. Smith, in his *Illustrations of the Zoology of South Africa.*

The following list exhibits the geographical distribution of the species. When the species is found in two of the larger divisions of the list, on account of its extensive range, it is preceded by an asterisk. The names of the species which are desiderata in the Museum collection, are printed in *Italics.*

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LOCALITY UNKNOWN.

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JOHN EDWARD GRAY.

British Museum, July 1, 1844.

SYNOPTIC CATALOGUE

OF

REPTILES.

Class III. — REPTILES, (Reptilia).

Animal furnished with a distinct bony skeleton. The skin clothed with horny imbedded plates or imbricated scales, which are covered with a thin and often deciduous epidermis. They respire by cellular lungs. The heart has a single ventricle divided into two or more cells, giving origin to two arteries and receiving the cold red blood by two veins from two auricles. Penis distinct. Oviparous, but the egg sometimes hatched in the body of the mother, often covered with a thick more or less calcareous shell. The young like the parent, and not undergoing any transformation.

Synopsis of the Orders.

Sect. I. Scaly Reptiles, (Squamata).

Body covered with overlapping scales. Skull formed of separate bones; the ear-bone external and only articulated to the rest. Vent a cross slit. The generative organs bifid. Tongue free.

1. Lizards, (Sauria). Mouth not dilatable: lower jaw-bones united by a bony suture in front. Limbs 4, distinct, rarely in such a rudimentary state as to be hidden under the skin.
2. Serpents, (Ophidia). Mouth very dilatable: bones of the lower jaws separate from each other, only united by ligaments. Limbs none, or only in the form of short spurs on the sides of the vent.

Sect. II. Shielded Reptiles, (Cataphracta).

Body covered with square imbedded shields. Bones of the skull adglutinated together, hard, with the ear-bone sunk into its substance. Jaws united into a solid mass: mouth not dilatable. Vent roundish or linear, plaited. The generative organs simple.

3. Tortoises, (Chelonians). Body short, depressed. The bones of the thorax external, surrounding the muscles of the body like a case, out of which the head, limbs and tail are protruded. Jaws toothless, covered with a horny coat.

4. Emydosaurians. Body fusiform, covered with square bony plates placed in longitudinal lines. Limbs 4, free. Vent linear, longitudinal. Jaws with teeth.

5. Amphisbenians. Body elongate cylindrical, covered with square imbedded plates placed in cross rows. Limbs none or very short, weak. Vent transverse. Jaws with teeth.

Sect. II. Shielded Reptiles, (Cataphracta).

Body covered with square imbedded plates, generally forming a dorsal and ventral shield. The bones of the skull thick, united together into a hard mass, and including the quadrate bones and pterygoid processes. The tongue is short, affixed to the mouth, scarcely exsertible. The lungs are enveloped by a thick peritoneum, which performs the part and has the appearance of a diaphragm. The vent is round or linear, plaited. The male organ and vagina are simple, the former having only a groove along its upper edge. Oviparous: the egg covered with a hard shell: the young, when hatched, having a large umbilical slit, which soon disappears.

Order III. TORTOISES, (CHELONIA).

The body enclosed in a case, formed of two shields united by their margins, and leaving only the head, neck, limbs and tail free, which are covered with a scaly skin: the upper shield or thorax formed of the ribs more or less dilated on the sides, united together and adherent to the dorsal vertebræ by a toothed suture, preventing any motion; they are surrounded by a series of bones forming the edge of the shields: the lower shield or sternum is formed of four pair and a central anterior bone. The jaws are toothless, covered with a horny bill, rarely hid by fleshy lips: the upper bill covers the lower like a box. Eyes with distinct eyelids. The drum of the ear visible, nearly superficial. The legs short, thick. Tail conical. The vent is a circular hole.

Synopsis of the Families.

1. Testudinidæ. Feet club-shaped; claws 5-4 or 4-4, blunt. Caudal shields united into one, incurved. Neck retractile.
2. Emydidæ. Feet palmated; claws 5-4 or 4-4, acute. Caudal shields separate. Neck retractile. Pelvis attached to the vertebræ only. Sternal shields 11 or 12.
3. Chelydidæ. Feet palmated; claws 5-4 or 5-5, acute. Caudal shields separate. Neck contractile. Pelvis attached to the vertebræ and sternum. Sternal shields 13.
4. Trionycididæ. Feet palmated; claws 3-3, acute. Bones covered with a soft skin having a flexible margin.
5. Cheloniadæ. Feet fin-shaped, compressed.

Fam. I. Land Tortoises, (Testudinidæ).

Head ovate, shielded: jaws naked: nostril apical. Neck retractile into the cavity of the shell. Feet short, club-shaped, armed with blunt claws. Shell very solid, thick, ovate, the ribs united together to the margin, in the adult state covered with horny concentrically grooved shields, marked with a permanent areola: marginal plates 24 to 26, the caudal pair always united together into one broad generally incurved plate. Sternum broad and solid, closed in the centre of the adult, and firmly attached to the thorax by a bony suture, covered by the end of the pectoral and abdominal plates. Tail short and thick. They are slow in their motion; eating vegetables and roots. In the colder climates they burrow and sleep during the winter.

Synopsis of the Genera.

1. Testudo. Thorax and sternum solid: sternal plates 12; inguinal plate moderate. Toes 5-4.
2. Homopus. Thorax and sternum solid: sternal plates 12; inguinal plates moderate. Toes 4-4.
3. Chersina. Thorax and sternum solid: sternal plates 11. Toes 5-4.
4. Kinixys. Thorax hinder part mobile: sternal plates 12; inguinal plates very large. Toes 5-4.
5. Pyxis. Thorax solid. Sternum front lobe moveable: sternal plates 12.

1. Testudo, *Linn.*

Thorax convex, subglobose, solid. Sternum solid, covered with 12 sternal shields, the gular pair separate, inguinal shields moderate. Head scaly, with 2 frontal shields above, and 1 vertical shield between the eyes. Claws 5-4, blunt.

A. *The last vertebral shield almost always as wide as the caudal and two hinder marginal plates. American.* Gophers.

The Gopher or Mungofa. Testudo Gopher, *Bartram, Voy.* i. 55. T. Polyphemus, *Hollbrook, Amer. Rep.* i. *t.* 1. *Daud. R.* i. 256. *Gray, Syn.* 5. *Dum. & Bib. E. G.* ii. 105. *Schw. Arch. Konisb.* i. 317. T. depressa, *Lesueur, Cuv. R. A.* ii. 10. *Guerin, Icon. t.* 1. *f.* 1. T. Carolina, *Linn. Leconte, Ann. Lyc. N. H.* v. 97. T. tabulata, *Schoepf. t.* 13? T. tabulata, var. *Schlegel, F. Japon.* 70. ?T. Schweigeri, *Gray, Syn.* 10. var.

Shell oblong, depressed; shields pale brown, grooved; nuchal shield broad: sternum produced in front, deeply nicked behind; pectoral shields short; head and cheeks covered with scales; tail very short.

Specimens in British Museum. *a.* Adult, 8½ inches. N. America. Presented by Richard Harlan, M.D.

b. Adult, 10½ inches. N. America. Presented by Edward Doubleday, Esq,

The Brazilian Tortoise. Testudo tabulata, *Walb. Ch.* 70, *t.* 22. *Daud. Rept.* i. 242. *Gray*, *Syn.* 10. *Bell*, *Test. t.* 1, 2. *Wagler*, *Syn. f.* 45, 48. *Neuw. Abbild. t.* . *Dum. & Bib. Erp. Gen.* ii. 89. T Hercules, *Spix*, *Braz. t.* 14. *Gray*, *Syn.* 9. T. Boiei, *Wagler*, *Amp. t.* 6, *f.* 7, 8. *Icones*, *t.* 13. T. denticulata, *Schoepf. t.* 28, *f.* 1. T. carbonaria, *Spix*, *t.* 16. *Bell*, *Test. t.* 1, 2. *Dum. & Bib. E. G.* ii. 99. T. tessellata, *Schn. Schoepf. t.* 12, *f.* 2. *t.* 13. *Neuw. Abbild. t.* . T. Cagado, *Spix*, *Braz. t.* 17. T. sculpta, *Spix*, *Braz. t.* 18. T. Græca, *Herm. Obs. Zool.* T. erosa, and T. gigantea, *Schweig.?* T. foveolata, *Licht. Berl. Acad.* 1820, 251. Sphargis Mercurialis, *Schinz. t.* 8, *f.* 1.

Shell subquadrate, oblong, depressed, sides contracted when adult; shields black, grooved, areola small, nuchal plate none; animal red or yellow, spotted.

Var. 1. Large, shell contracted on the sides, sternum roundly lobed behind. *T. Hercules*, Spix.

a. c. and *f.* Adult, 11½ inches. Shell only. Sternum rather concave. S. America.

b. d. and *f.* Adult, 12½ inches. Sternum very concave. S. America.

Var. 2. Smaller (young?), shell oblong, sternum acutely lobed behind. *T. tabulata*, Walb.

a. Adult, 11 inches. Sternum very concave. Trop. America.

b. Adult, 9 inches. Sternum flat. Trop. America.

c. Adult skeleton 10 inches. Sternum flat. Trop. America.

d. Young, in spirits. Gular plates truncated, not produced, marginal plates denticulate; shields brown, areola yellowish.

Var. 3. The last vertebral nearly as broad as the caudal and half of each of the hinder marginal shields.

f. Half-grown animal and shell. West Indies. Presented by J. Gould, Esq.

B. *The last vertebral generally only as wide as the caudal and half of each of the hinder marginal shields. Confined to the Old World.*

The Indian Tortoise. Testudo Indica, *Gmelin*, *S. N. Gray*, *Syn.* 9. *Cat. Zool. Soc.* 40, *fig.* 9. Chersina retusa, *Merrem.* T. Elephantopus, *Harlan*, *J. Acad. Phil.* iii. 284, *t.* 9. T. nigra, *Quoy*, *Voy. Uran. t.* 40. *Dum. et Bib. E. Gen.* ii. 115. T. Californica, *Quoy.* T. Dussumieri, *Schlegel*, *Mus. Leyd.* i. *Pet.*

Gaz. t. 76, *f.* 4. T. gigantea, *Schw. Arch. Konisb.* i. 327. *Dum. & Bib. E. G.* ii. 120. *Schoepf. t* 22. *Shaw, Zool. t.* 3. *Weigmann, Bon. Trans. t.* 13. T. Vosmaeri, *Fitz. Cat.* 44. *Dum. & Bib. E. Gen.* ii. 140. T. nigrita, *Dum. & Bib. E. Gen.* ii. 81. T. Daudinii, *Dum. & Bib. E. Gen.* ii. 125. T. Elephantina, *Dum. & Bib. E. G.* ii. 110. T. Perraultii, *Dum. & Bib. E. G.* ii. 126. La ronde, *Lacep. Quad. Ovip.* i. 126, *t.* 5. T. orbicularis, *Bechst.* in *Lacep.* i. 154. T. rotunda, *Latr. Rept.* i. 107.

Black; pectoral shields short; nuchal plates variable or wanting; animal black; last vertebral often as broad as the three last marginal.

a. Adult, 32 inches. Nuchal plate, shell only, not a good state.
b. Very young, only upper part of shell, no nuchal plate, 4 inches. Presented by J E. Gray, Esq.
c. Adult, 21 inches. Nuchal plate distinct.
d. Very young, 4 inches. Nuchal plate distinct. Last vertebral narrower than the three last marginal. Bengal. Presented by General J. Hardwicke.
e. Young, 14 inches. Nuchal plate distinct. Shell only.
f. Young, 7 inches. Nuchal plate none.
g. Young, 6 inches. Nuchal plate none, feet bad.
h. Young, 5½ inches. Nuchal plate none. Shell only; nucleus of marginal and gular plates pale.
i. Very young, 4½ inches. Whitish; nuchal plate none; nucleus of plates dark.
j. Adult animal and shell, 23 inches.
k. Upper shell only, very large and broad. Presented by E. Cross, Esq.

The Coui. Testudo radiata, *Shaw, Zool.* iii. *t.* 2. *Grew, Mus. t.* 3, *f.* 2. *Bell, Test. t.* 1, 2. *Dum. & Bib. E. G.* ii. 83. T. Coui, *Daud. R.* ii. 271, *t.* 26, *f.* 2. T. Madagascariensis, *Comm. Mus. Par.* T. calcarata, part, *Merrem.*

Shell hemispherical; shields flat, grooved, black, yellow-rayed, areola small, rufous; nuchal shield triangular; sternum produced in front, truncated behind.

a. Upper shell only, 9 inches. Madagascar. From the Museum of the Royal Society.
b. and *c.* Shell only. Madagascar. Presented by Gen. Th. Hardwicke.
d. Shell and animal, 6½ inches. Madagascar.
e. Shell only, wanting some plates, 5½ inches. Madagascar.
f. Young, shell only, 4 inches. Gular plate short, truncated. Madagascar.
g. Young, shell only.
h. Very young, shell only.
i. Half grown, shell only.

k. Adult, shell and animal. Margin and shields much worn. Gular plate produced, rounded, not nicked; anal plate very short, very convex. Madagascar.

The Grooved Tortoise. Testudo sulcata, *Miller*, *Cym. Phys. t.* 26. *Gray*, *Syn.* 68. *Dum. & Bib. E. G.* ii. 74, *t.* 13, *f.* 1. T. calcarata, *Schn. t.* 12. *Bechst.* in *Lacep.* i. 346, *t.* T. radiata Senegalensis, *Gray*, *Syn.* 11. *Schlegel*, *F. Japon.* 74. T. Schoepfii, *Ruppell.*

Shell oblong, depressed, dirty yellow, dorsal line flattened, with a deep triangular notch in front; front and hinder margin strongly reflexed and deeply toothed; lateral edge slightly keeled; caudal plate very broad, inflexed; shields deeply grooved, areola small; sternum produced and bifid in front: animal pale yellow; feet with very large scales in front, thighs with 2 large spines.

a. Young, stuffed, 8 inches. Abyssinia. From the Francfort Museum.

b. Adult, 19 inches. Upper shell only. S. Africa.

Dr. Horsfield's Tortoise. Testudo Horsfieldii. T. Iberia, *Pallas ? Faun. Casp. t.* 5 ?

Shell oblong, rather depressed, pale, varied with blackish, especially upon the lower side; the gular plates elongate, triangular, longer than broad, the anal plates broader than long, the hinder notch broad, triangular, the hinder marginal plates broad, with the nucleus on the centre of their margin; the front edge of the fore arms with smaller scales than the hinder; the vent with two blunt spines on each side.

a. Young. India, Affghanistan. Presented by the Hon. E. India Company.

The Leopard Tortoise. Testudo Pardalis, *Bell*, *Zool. Journ.* iii. *t.* 25. *Test. t.* 1, 2. *Gray*, *Syn.* 12. T. armata, *Boie*, *Erp. Jav. MS.* T. bipunctata, *Cuv. R. A.* ii. 10. *Gray*, *Syn. t.* 3, *f.* 3, *lower. Gotw. Schildk. t. k. f.* 15.

Shell nearly hemispherical, blackish or yellow, black-spotted; shields grooved; areola of the costal shields near the upper edge; nuchal shields none.

a. Sternum only, 13 inches. S. Africa.

b. Adult, animal and shell, 12½ inches. S. Africa. From the South African Museum.

c. Young, shell without front lobe of sternum; yellow, shields black-edged, areola spotted; shields grooved.

The Starred Tortoise. Testudo stellata, *Schweigr. Prod.* i. 325. *Gray*, *Syn.* 12. *Seba*, *t.* 80, *f.* 3, *t.* 79, *f.* 3. T. actinoides, *Bell*, *Zool. Journ.* ii. *t.* 14. *Test. t.* 1, 2. *Dum. & Bib. E. G.* ii. 66. T. elegans, *Schoepf. t.* 25, *f.* 1. *Gray*, *Syn. t.* 3, *f.* 1, 2. T.

geometrica, *Shaw, Zool.* v. *t.* 2, *f.* 1. Le Geometrique, *Lacep. Q. O.* 155, *t.* 9.

Shell ovate, convex, shields convex, grooved, black, yellow-rayed, areola large, placed near the hinder edge; nuchal shield none; head and feet black, yellow-spotted; tail short.

a. Adult, 6 inches. Yellow, black-rayed. Ceylon. Presented by J. E. Gray, Esq.

b. Shell only.

c. Upper shell only; depressed, broad, pale; nucleus very large, pale margin of shields blackish marked.

d. Young: nucleus moderate; nucleus and margin brown-edged, with 4 broad yellow rays.

Test. elegans, *Schoepf. t.* 26. *Cop. Shaw, Zool.* ii. *t.* 6.

e. Adult, shell only, 10 inches. Shields very high, truncated. Philippines.

The Toothed Cape Tortoise. Testudo semiserrata, *A. Sm. Illust. South African Zoology*, *t.* 4.

Brown, yellow-rayed, below yellow, black-rayed; nuchal shield triangular; the forefeet with large tubercular scales above the claws.

a. Adult. Shields rather convex. S. Africa. From the South African Museum.

b. and *c.* Shields scarcely raised. S. Africa. From the South African Museum.

d. Young, shell only. Thorax orbicular; margin more acutely serrated. S. Africa. From the South African Museum.

The Geometric Tortoise. Testudo geometrica, *Linn. S. N.* i. 353. *Gray, Syn.* 12. *Dum. & Bib. E. G.* ii. 57. T. luteola, *Daud. Rept.* ii. 277, *t.* 25, *f.* 3. T. tentoria, *Bell, Zool. Journ.* ii. *t.* 13. *Mus. Gohr. f.* 13—16. *Seba*, *t.* 80, *f.* 8. *Lacep. Q. O. t.* 3, *f.* 2. *Shaw, Zool.* ii. *t.* 2. *Schoepf. t* 10. *Daud. t.* 25, *f.* 1. *Bell, Test. t.* 1.

Shell oblong, convex; shields yellow, grooved, black-rayed, areola yellow, truncated; nuchal shield long.

Var. 1. Shell oblong, elongate, narrow: sternum concave: nuchal plate elongate, narrow: caudal shield much incurved, (*T. geometrica*).

b. c. d. & e. Shells wanting the front lobe of sternum. S. Africa.

Var. 2. Shell oblong, ventricose: sternum convex, black-rayed: nuchal plates elongate, narrow: shields convex, truncated: caudal shield incurved, convex. *T. tentoria*, Bell.

a. Shell wanting the first lobe of sternum, 4½ inches. S. Africa.

e f. Shell. Cape of Good Hope. Presented by Gen. Th. Hardwicke.

g. Shell only, wanting a few plates, 5 inches. Vertebral shield very high. Cape of Good Hope.
k. Shell, young, $2\frac{1}{2}$ inches. Plates flattish. Cape of Good Hope?
l. Animal and shell, young, $2\frac{1}{2}$ inches. Plates rather convex. Cape of Good Hope.

Var. 3. Shell oblong, ventricose: sternum convex, dark in the middle, white on the sides: nuchal plates short, truncated: shields convex, often high, truncated.
h. Shell, adult, $5\frac{1}{2}$ inches. Dorsal shields high, conical; caudal plate produced. Cape of Good Hope. Presented by Robert Brown, Esq.
i. & j. Shell, young. Dorsal shield rather convex; caudal plate inflexed. Cape of Good Hope. Presented by Robert Brown, Esq.

VERREAUX' TORTOISE. Testudo Verroxii, *A. Smith, Illustr. Zool. S. Africa, t.* 8. ♂.

Shell black brown, varied with pale yellow rays and spots, beneath yellow, black in the centre; head above yellow; feet with large imbricate scales in front; marginal shields placed at an angle with respect to the costal shield; nuchal plate triangular; discal plate simple, convex.

Inhabits South Africa. Probably only a variety of *T. geometrica*, from a single specimen in Dr. A. Smith's collection.

The MARGINED TORTOISE. Testudo marginata, *Schoepf. t.* 11, 12, *f.* 1. *Gray, Syn.* 11. *Exped. Morea, t.* 7, *f.* 2. *Dum. & B. E. G.* ii. 37. *Wagler, Amph. t.* 25. T. Graii, *Herm. Obs. Zool.* 219 T. Græca, *Lacep. Q. O. t.* 5, *f.* 2. T. Græca, var. *Schlegel, F. Japon.* 7. T. campanulata, *Walb. Chel.* 124. T. lutraria, *Gmel.* T. rotunda, *Lacep. Scheuch, P. S.* ii. 261.

Shell oblong, ventricose, hinder edge horizontally expanded; shields black, yellow-varied, grooved, areola small, yellow; nuchal plate slender, long; animal blackish, limbs largely scaled.

a. Young, $3\frac{1}{2}$ inches. Caudal plate produced, flat. S. Europe. Presented by J. E. Gray, Esq.

The TARTARUGA. Testudo Græca, *Linn. S. N.* ii. 552. *Gray, Syn.* 13. *Exped. Morea. t.* 7, *f.* 1. *Shaw, Zool.* ii. *t.* 1. *Schoepf. t.* 8, 9.—*Dum. & Bib. E. G.* ii. 49, not *Pallas*. T. Carolina, *Herm.* T. geometrica, *Brunnich, Adriat.* 92. T. Hermanni, *Schneid.* 348. *Seba, t.* 80, *f.* 1. *Knorr, Del. Nat.* ii. *t.* 52, *f.* 1. T. pusilla, *Shaw, Zool.* iii. 53. T. Ibera, *Pallas ? Zool. Ross. Eichw. Z. Spec.* ii. 196. *Fauna Casp. Cauc.* 43, *t.* 5.? T. Mauritanica, *Dum. & Bib. H. Gen.* ii. 44. *Edw. Birds, t.* 204. T. Zohaffa, *Forskael, F. Arab.* 12.

Shell oblong, subglobose; shields rather convex, black and yellow-varied; nuchal shield distinct.

a. Sternum flat, black, 5 inches. S. Europe. Presented by J. E. Gray, Esq.
b. Sternum rather concave, black, 4½ inches. S. Europe. Presented by Gen. Th. Hardwicke.
c. Vertebral shields convex, sternum black, 5 inches. S. Europe. Presented by Gen. Th. Hardwicke.
d. Sternum black varied, 6 inches.
e. Sternum black varied, 5½ inches. S. Europe.
f. Sternum black varied, 7 inches. Some of the marginal plates wanting. S. Europe.
g. Shell only, 5½ inches. S. Europe.
h. Shell only, 5 inches. S. Europe. Presented by J. E. Gray, Esq. Testudo Mauritiana, *Dum. & Bib. E. G.* ii. 44.
i. Shell only, 7½ inches. S. Europe. Presented by Gen. Th. Hardwicke.
j. Shell only, young, 2½ inches. S. Europe. Presented by Gen. Th. Hardwicke.
k. In spirits, 4 inches. S. Europe. Presented by J. E. Gray, Esq.
l. In spirits, young, 2½. S. Europe. Presented by J. E. Gray, Esq.

2. Homopus, *Dum. & Bib.*

Shell depressed, solid. Sternum solid, hinder lobe sometimes mobile, sternal shields 12, gular plates separate. Claws 4-4.

The Areolated Tortoise. Homopus areolatus, *Dum. & Bib. E. Gen.* ii. 146, *t.* 15, *f.* 2, 3. Testudo areolata, *Thunb. N. A. Sued.* viii. 180. *Gray, Syn.* 13. *Bell, Test. t.* 1, 2. *Seba*, i. *t.* 80, *f.* 61. *Schoepf. t.* 23. Chersina tetradactyla, *Lesson, Bull. Sci.* xxv. 119. *Merrem, Test.* 43. T. fasciata, *Daud. R.* ii. 294. T. pusilla, *Daud. R.* ii. 299. T. Juvencella, *Daud.* R. Le vermillion, *Lacep. Q. O. p.* 166.

Shell oblong, depressed, bent up on the sides; shields convex grooved yellow; sutures deep, areola sunk fulvous; nuchal shield slender; animal pale brown; legs largely scaly.

a. Not good state, 3 inches. Cape of Good Hope. Presented by R. Brown, Esq.
b. Shell only, 3½ inches. Presented by J. E. Gray, Esq.
c. Animal and shell, 3½ inches. From the South African Museum.

The Speckled Tortoise. Homopus signatus, *Dum. & Bib. E. Gen.* ii. 182. Testudo signata, *Walb. Chel.* 71, 120. *Schoepf.* 120, *t.* 28, *f.* 2. *Gray, Syn.* 13. *Bell. Test. t.* . T. denticulata, var. *Gmel. S. N.* i. 1045. T. cafra, *Daud. Rept.* ii. 291. T. pardalis, *Jun. Schlegel, F. Japon.* 73.

Shell oblong, uniformly inclined on the sides; shield flattish, yellow, black-lined or dotted, areola blackish, sunk.

a. In spirits, young. S. Africa.
b. Dry, very young. Isle of France?

3. Chersina, *Gray.*

Thorax convex, very solid. Sternum solid, sternal shields 11, the gular pair united into a single produced one, inguinal plates moderate. Claws 5-4.

The Angulated Tortoise. Chersina angulata, *Gray, Syn.* 15, 69, *t.* 1, 2. Testudo angulata, *Dum. Mus. Paris. Schw. Arch. Konisb.* i. 321. *Bell. Test. t.* 1. *Dum. & Bib. E. Gen.* ii. 330. T. Bellii, *Gray, Spic. Zool.* t. 3, *f.* 4. *Knorr, Del. Nat.* ii. *t.* 52, *f.* 2. T. flavo-fusca, *Mus. Berl.* T. pusilla, *Linn. S. N.* ii. 353. T. Graii, *Dum. & Bib. E. Gen.* ii. 135. T. tabulata, var. Africana, *Schw. Arch. Kon.* i. 322. T. peltastes, *Dum. & Bib. E. Gen.* ii. 138.

Shell oblong, ventricose; shields black-grooved, yellow-varied, areola yellow, sunk.

a. Adult, worn. Pale horn-color, with a brown spot in each areola, 7½ inches. S. Africa. Presented by J. E. Gray, Esq.

b. Half-grown animal, not good state, 5½ inches. Cape of Good Hope. Presented by Robert Brown, Esq.

c. Half-grown, shell only, 5½ inches. Cape of Good Hope. Presented by R. Brown, Esq.

d. Young, solid; shell only, 4 inches. Cape of Good Hope. Presented by J. E. Gray, Esq.

4. Kinixys, *Bell.* Cinixys, *Wagler.*

Thorax convex, hinder lobe becoming mobile, with a carious suture. Sternum solid; sternal plates 12; gular pair produced and separate; inguinal plates very large. Claws 5-4, outer front one very small.

In the young, the dorsal suture is scarcely observable, but then the genus can be distinguished by the large size of the inguinal plates, the suture becomes more observable as the animal increases in age; unlike the box tortoises, where the moveable lobes of the sternum often become anchylosed in the older specimens. Cuvier only having seen one specimen (Reg. An. ii. 10), considered this structure as an accidental deformity, and Wagler by mistake says it is the front part that is moveable.

** Fifth vertebral plate produced.*

Home's Kinixys. Kinyxis Homeana, *Bell, Linn. Trans.* xv. *t.* 17. *Gray, Syn.* 15. *Dum. & Bib. E. G.* ii. 161, *t.* 14, *f.* 2. Test. Homeana, *Gray, Z. M.* 1825. Test. angulata, adult, *Schlegel, F. Japon.* 72.

Shell oblong, subquadrate, brown, hinder edge reflexed; upper edge of the fifth vertebral shield compressed, produced; nuchal shield generally distinct.

a. and b. Shell only, 7 inches. Demerara. Presented by Sir E. Home, Bart.

*** Fifth vertebral plate regularly rounded.*

Eroded Kinyxis. Kinyxis erosa, *Gray*, *Syn.* 16. *Dum. et Bib. E. Gen.* ii. 165. K. castanea, *Bell*, *Linn. Trans.* xv. *t.* 18. Test. erosa, *Schn. Arch. Konisb.* i. 321. T. denticulata, *Shaw*, *Zool.* ii. *t.* 13, not *Linn.* T. angulata, adult, *Schlegel*, *F. Japon.* 72.

Shell oblong, brown (yellow-rayed?), hinder edge reflexed, toothed, the fifth vertebral shield equally rounded, nuchal shield none.

a. Adult shell with fore feet only, 9½ inches. W. Africa, Gambia.
b. Half grown, shell only, 6 inches. W. Africa.

Kinixys castanea, *Bell*, *Linn. Trans.* xv. *t.* 18.
. Half grown, shell only, 5 inches. W. Africa?

Bell's Kinixys. Kinixys Belliana, *Gray*, *Syn.* 69. *Griffith*, *A. K. t.* *Dum. & Bib. E. G.* ii. 168.

Shell oblong, subquadrate, yellow, brown-rayed, rather depressed in front, margin nearly entire, (worn?); fourth and fifth vertebral shields equally convex; nuchal shield elongated.

a. Yellow, much rubbed. Presented by John Edward Gray, Esq.
b. Yellow, brown-rayed. Gambia. Presented by J. Whitfield, Esq.

5. Pyxis, *Bell.*

Shell subglobose, solid. Sternum with the front lobe mobile, the suture below the humeral and pectoral shields. Toes ——?

The Pyxis. Pyxis arachnoides, *Bell*, *Linn. Trans.* xv. *t.* 16. *Gray*, *Syn.* 16. *Dum. & Bib. E. G.* ii. 156, t. 14, *f.* 1. P. Madagascariensis, *Lesson*, *Bull. Sci.* xxv. 120. Testudo geometrica, var. *Schlegel*, *F. Japon.* 74.

Shell hemispherical, yellow and black varied, very variable in colour.

Inhabits Madagascar. Mus. Bell. two specimens.

Fam II. Terrapens, (Emydidæ).

Head rather depressed, covered with a hard or soft skin: jaws naked: nostril small, apical. Neck retractile into the cavity of the thorax. Feet depressed, expanded: toes 5-5 or 5-4, almost always webbed to the claws: claws sharp. Tail conical, shielded beneath. Thorax generally depressed, solid, with a distinct bony margin, covered with horny plates. Discal plates 13, marginal 24-26, caudal always separate; sternal shields 11 or 12, gular pair sometimes united. The vertebræ of the neck bent in a perpendicular bow. Pelvis only united to the vertebræ. Rapid; living in fresh-water ponds. Carnivorous, only taking their food while in the water. Egg oblong, white.

Synopsis of the Genera.

A. *Head and tail moderate, sterno-costal suture simple.*

a. *Sternum solid, truncated before and nicked behind, attached to the thorax by a bony symphysis; sternal plates* 12*; axillary and inguinal plates moderate or none.*

Geoemyda. Head covered with a thin skin: toes 5-4, free, short.

Emys. Head covered with a thin hard skin: toes 5-4, webbed.

Tetraonyx. Head covered with a thin hard skin: toes 4-4, webbed.

Malaclemys. Head depressed, covered with a soft skin: toes 5-4, webbed.

b. *Sternum divided by a central cross suture, attached to the thorax by a ligamentous suture; sternal plates* 12*; axillary and inguinal plates very small.*

Cistuda. Sternum rounded before.

c. *Sternum divided by two cross sutures, central lobe attached to the thorax by a bony symphysis; sternal plates* 11 *or* 8*; the axillary and inguinal plates large.*

Kinosternon.

B. *Head and tail very large, sterno-costal symphysis covered with one or three peculiar plates.*

d. *Sternum cross-like, acute before; sternal plates* 10*, with a broad one on each side, over the sides of the sternum.*

Chelydra. Tail crested.

e. *Sternum broad, truncated before; sternal plates* 12*: sterno-costal suture covered with three additional plates.*

Platysternon. Tail cylindrical, shielded.

1. Geoemyda, *Gray.*

Head covered with a thin continued skin; chin not bearded. Legs strong, not fringed behind. Toes 5-4, strong, short, free, covered above by a series of shields; claws short. Tail tapering. Shell depressed, three-keeled; hinder edge strongly toothed. Sternum solid, broad, truncated before, nicked behind; gular plate, linear, band-like, small; axillary and inguinal plates small.

The Toothed Land Emys. Geoemyda Spengleri, *Gray*, *Pr. Z. Soc.* 1834. Testudo S. *Walb. Hist. Naturf.* vi. *t.* 3. *Gmelin*, *S. N.* i. 1043. *Schw.* 310. *Gray*, *Syn.* 21. *Dum. & Bib. E. Gen.* ii. 308. T. serrata, *Shaw*, *Zool.* iii. 50, *t.* 9. T. serpentina, var. *Latr. Rept.* i. 163. T. tricarinata, *Bory*, *Atlas. t.* 37, *f.* 1.

Shell oblong, depressed, pale brown, three-keeled; keels continuous, distant, black-edged, hinder edge deeply serrated; vertebral shields quadrate; sternum black, yellow-edged: animal olive, red dotted, with a white streak on each side of the neck.

a. Adult, dry animal (shell lost one scale). 3½ inches. China. Presented by John R. Reeves, Esq.
b. Shell only. Africa.

The Spinose Land Emys. Geoemyda spinosa, *Gray*, *Pro. Z. Soc.* 1834. *Illust. Ind. Zool. t.* , *f.* 2. Emys s. *Gray*, *Syn.* 20. *Illust. Ind. Z. t. f.* 1 (young). *Bell*, *Test. t.* 1. *Dum. & Bib. Erp. Gen.* ii. 327. "E. bispinosa," *Schlegel.* Testudo Emys, *Muller*, *Verh. Rept. t.* 4? Vertebral plates not keeled.

Shell oblong, subquadrate, keeled, flattened above, chesnut brown, front and hinder edge strongly serrated; vertebral plates broad, first suburceolate; costal plates with a posterior, subsuperior areola, with a slight subconic tubercle; beneath yellow, brown rayed; *young* depressed, pale brown, bluntly keeled, with a distinct spine in the areola of each discal plate.

a. Adult, 8 inches. Sumatra.

2. Emys, *Brongn.*

Head moderate, covered with a thin hard skin; chin not bearded. Feet short, covered with scales; toes 5-4, strong, shielded above, webbed to the claws. Tail moderate. Shell depressed. Sternum solid, broad, truncated before, nicked behind, affixed to the thorax by a bony symphysis, covered by the ends of the pectoral and abdominal plates; axillary and inguinal plates moderate, distinct.

A. *Vertebral plates elongate, lozenge-shaped.* (Asiatic).

a. Shell very solid, shelving on the sides; keel tubercular, margin entire.
b. Shell depressed, three-keeled.

B. *Vertebral plates 6-sided, margin subdentate.*

a. Asiatic.
b. European.
c. American.

* *Sternum nicked behind.*

† Shell with a continuous keel.
†† Shell tubercularly keeled.
††† Shell keelless or only keeled when young, neck streaked.
†††† Shell keelless, like the neck, yellow spotted.

** *Sternum truncated at each end, shields pale-edged.*
*** *Sternum acute at each end. E. Kinosternoides.*

A. *Vertebral plate lozenge-shaped.* Asiatic.

The Pangshure. Emys tectum, *Bell. Test. t.* 1, *f.* 1—4. *Gray, Syn.* 23, *t.* 25. *Illust. Ind. Zool.* ii. *t.* 72, *f.* 1, 2. *Dum. & Bib. E. Gen.* ii. 321. *Schlegel, F. Jap.* 51. E. trigibbosa, *Lesson, Bull. Sci. Nat.* xxv. 121, *& Belanger, Voy.* 29. Testudo Pangshure, *n.* 4, and T. khagraskata, *n.* 16, *B. Hamilton, MSS.*

Shell ovate, oblong, solid, olive, with a central interrupted red streak; back angularly elevated, compressed; vertebral shields elongated, six-sided, the 1st, 2nd and 3rd keeled, each produced and subtubercular behind, margin quite entire, shelving; sternum flat keeled, sides high sloping; head olive, with two broad orange converging streaks; neck with close olive lines.

a, *b*, *c*. Adult, stuffed and in spirits. India. From M. Piquot's collection.
d. Adult, in spirits.
e. Adult, stuffed. India. Presented by J. E. Gray, Esq.

The Dura. Emys tentoria, *Gray, Pr. Z. Soc.* 1834. E. tectum, adult, *Gray, Illust. Ind. Zool. t.* 72, *f.* 3. Testudo Dura, *B. Hamilton, MSS.*

Shell ovate oblong, olive; back rather angularly compressed; shields slightly rugose, the first vertebral one four-sided, as broad as long, the rest elongated, six-sided, keeled, the keel (of the third especially) produced behind into a tubercle; the marginal and sternal plates yellow keeled; sternum nearly flat, slightly elevated, and keeled on the sides.

a. Adult, 6 inches. Deccan. Presented by Colonel Sykes.

Duvaucell's Emys. Emys Duvaucellii, *Dum. & Bib. Erp. Gen.* ii. 334.

Shell subcordiform, smooth, entire, convex, tent-like, greyish edged with black, and with three black streaks, the side ones on the upper edge of the costal plates; vertebral plates quadrilateral, oblong, very long, keeled on the hinder edge.

Inhabits India, Bengal. In Mus. Paris.

The Thick-necked Emys. Emys crassicollis, *Bell MSS. in Gray, Syn.* 21, *t.* 7, *f.* 3. *Illust. Ind. Zool. t.* 9, *f.* 2. *Dum & Bib. E. Gen.* ii. 325. E. Spengleri, var., *Schlegel, F. Japon.* 51.

Shell ovate, oblong, rather convex, revolute on the sides and deeply toothed behind, black, slightly three-keeled; keels close; first vertebral plate elongate, six-sided; sternum flat, pale, and keeled on the sides; head and neck thick, black.

a. Shell only. 4½ inches long. Sumatra. Presented by Thomas Bell, Esq.

b. Animal and shell, half grown, in spirits. Sumatra. From the Leyden Museum.

The Three-keeled Emys. Emys trijuga, *Schweig. Prod.* 310. *Dum. & Bib. Erp. Gen.* ii. 310. E. Belangeri, *Lesson, Voy. Ind.* 291. Testudo scabra, *Shaw, Zool.* iii. 55, from *Seba.* i. 126, *t.* 79, *f.* 1, 2.

Shell convex, oval, brown, three-keeled; keels rather interrupted, margin slightly toothed; shields rugose; areola marginal, posterior, rugose; sternum rather convex on the sides, blackish; head brown, with a yellow streak over each eye; jaws yellow varied.

a. Animal and shell. Under side of marginal shield, and edge of sternum yellow. Compared with specimens in the Paris Museum. Presented by J. E. Gray, Esq.

b. Shell. Under side of margin and edge of sternum black. India. From the Vienna Museum.
"Emys Hermanni," *Schw.*? *Mus. Vienna.*

B. *Vertebral plate broad, 6-sided. Asiatic.*

The Flat-backed Emys. Emys platynota, *Gray, Proc. Zool. Soc.* 1834. *Illust. Ind. Zool. t.*

Shell ovate, convex, yellow dotted, with the centre of the back quite flat, as if truncated; shields striated, nucleus central; vertebral shields broader than long, 6-sided, 5th keeled; the front and hinder margin strongly toothed; sternum flat, truncated before, and slightly nicked behind; tail moderate, tapering.

a. Adult. Sumatra.

The Kachuga. Emys lineata, *Gray, Syn.* 23. *Dum & Bib. E. Gen.* ii. 335. Testudo kachuga, *B. Hamilton, MSS. cop.* Emys k. *Illust. Ind. Zool. t.* 74. E. tectum, var., *Schlegel, F. Japon.* 51.

Shell oblong, olive, smooth, tubercularly keeled; vertebral shields quadrate, 3rd broadest, 2nd and 4th longest, six-sided; margin dilated, behind entire; sternum yellowish, truncated before and behind, slightly keeled on the sides; head bluish-ash; cheek and chin yellow-varied; eye-brow and nape scarlet lined; chin with two yellow spots; tail long.

Inhabits India. From Dr. Buchanan Hamilton's drawings.

The Dhongoka. Emys Dhongoka, *Gray*, *Illust. Ind. Zool.* ii. *t.* cop. Testudo D., *B. Hamilton*, *MSS.* E. lineata, var. *Dum. & Bib. E. G.* ii. 335. E. tectum, var.? *Schlegel*, *F. Jap.* 51.

Shell ovate, depressed, dark brown, expanded over the legs, and subdentate behind; back shelving, slightly keeled; sternum pale, sides high sloping, keeled: animal olive-green, pale beneath; head with a dark streak from the nostril and eyes to the ears, and a broad blue streak from the angle of the mouth, and on the centre of the chin.

Inhabits India. From Dr. Buchanan Hamilton's drawing.

The Thurgi. Emys Thurgii, *Gray*, *Syn.* 22, 72. *Dum. & Bib. E. Gen.* ii. 318. Test. Thurgii, *B. Hamilton*, *MSS.* cop. *Gray*, *Illust. Ind. Zool. t.* . Emys flavo-nigra, *Lesson*, *Bull. Sci.* xxv. 12, and *Belanger*, *Voy.* 22. E. Spengleri, var., *Schlegel*, *F. Jap.* 51.

Shell oblong, rather convex, olive-brown, margin yellowish, rather toothed behind; vertebral plates 1st quadrate, 2nd and 3rd broad, six-sided; sternum olive, slightly keeled on the sides; head olive, with a yellow band from the nostrils, over the eye-brows, along the side of the neck; feet olive, yellow spotted.

a. Adult, 13 inches. India, Bengal. From M. Piquot's collection.

b. Young, 5 inches. India, Bengal.

The Three-streaked Emys. Emys trivittata, *Dum. & Bib. E. Gen.* ii. 331.

Shell smooth, entire, subcordiform, swollen, yellowish green, with three broad blackish bands, yellowish beneath: animal olive; jaws toothed.

Inhabits India, Bengal. In Mus. Paris.

The Chinese Emys. Emys sinensis, *Gray*, *Pr. Z. Soc.* 1834.

Shell ovate, convex, rather strongly keeled, olive, black-speckled; shields smooth, with a central orange streak; vertebral shields broad, six-sided, 1st narrowest, as long as broad; margin entire, rather revolute in front, and expanded over the leg behind, beneath yellow, with an oval, rather posterior, black-edged olive spot; sternum high, slightly keeled on the sides; head and neck olive, with narrow yellow lines.

a. Adult, 4 inches long. Presented by John Reeves, Esq.

Beale's Emys. Emys Bealii, *Gray*, *Proc. Z. Soc.* 1834. *Dum. & Bib. E. Gen.* ii. 325. Cistuda? Bealii, *Gray*, *Syn.* 71.

Shell ovate, oblong, solid, rather convex, olive, black dotted; back slightly contracted and keeled behind, hinder edge rather expanded; vertebral shields transverse, six-sided; sternum rather

paler, black spotted; head yellowish, black spotted; chin and cheek yellow-marked; occiput with two large eyed spots; neck scarlet-lined.

a. Adult animal and shell, 5 inches. China. Presented by J. Reeves, Esq.
b. Shell only. China. Presented by J. Reeves, Esq.

The Eyed Emys. Emys ocellata, *Dum. & Bib. E. Gen.* ii. 329, *t.* 15, *f.* 1.

Shell entire, nearly hemispherical, (keeled when young); dorsal plates brown, each marked with a yellow-edged black spot; vertebral plates 1st pentagonal, rest six-sided; tail short; jaws toothed.

Inhabits India, Bengal. Mus. Paris.

Reeve's Emys. Emys Reevesii, *Gray*, *Syn. R.* 73. *Dum. & Bib. E. Gen.* ii. 315. E. Spengleri, var. *Schlegel*, *F. Jap.* 51.

Shell oblong, very convex, black, (pale brown when dead), obscurely three keeled, keels distant, lateral and continued; vertebral shields broad, six-sided, margin entire, the second pair of sternal shields subtriangular, narrow at the inner edge; inguinal and axillary plates large; head black, cheek and neck yellow-lined.

a. Animal, dry, 2¼ inches. China. Presented by J. Reeves, Esq.
b. Shell only, 2¾ inches. Presented by J. Reeves, Esq.

Dr. Cantor's Emys. Emys mutica, *Cantor*, *Ann. N. Hist.* 1842.

Shell oblong, keeled, (three-keeled when young), brown; nuchal shield triangular; middle of the sternal plates varied with black; pectoral shields four-sided, the inner side nearly as broad as the outer; inguinal and axillary plates very small.

Very like *E. Reevesii*, but differs in the shape of the pectoral, axillary and inguinal shields.

a. Young animal, dry, from spirits, 2¾ inches long. China, Canton. Presented by Hon. E. India Company. From Dr. Cantor's collection.

The Blackish Emys. Emys nigricans, *Gray*, *Proc. Zool. Soc.* 1834.

Shell ovate, oblong, rather convex, revolute on the sides and slightly toothed behind, brown, slightly three-keeled, the central keel prominent, blunt, interrupted in front and continued behind, the lateral keels far apart, indistinct and interrupted; shield radiately striated, blackish-rayed; nuchal plate none; margin yellow, spotted beneath; sternum convex, rounded on the side; axillary plate moderate, inguinal large.

a. Shell only, margin broken, 2½ inches. China. Presented by J. R. Reeves, Esq.

Seba's Emys. Emys Seba, *Gray*, *Syn. R. t.* 75. *Seba*, *Thes.* i. *t.* 79, *f.* 12. Emys Thermalis, *Rey. Lesson*, *Cent. Zool.* 89, *t.* 29.

Shell ovate, convex, brown, entire, three-keeled, keels continuous, central one yellow, lateral ones arched; sternum flat, keeled on the sides, brown, with a pale streak on each side; head red spotted and streaked; feet brown.

Inhabits Ceylon. Mus. Paris.

Hamilton's Emys. Emys Hamiltonii, *Gray*, *Syn.* 21, 72. *Dum. & Bib. E. Gen.* ii. 316. E. guttata, *B. Hamilton*, *MSS. Gray*, *Illust. Ind. Zool. t.* 9, *f.* 1, not *Schweig.* E. Piquotti, *Lesson*, *Belanger*, *Voy.* 294.

Shell oblong, convex, solid, with three interrupted keels, slightly toothed behind. black, yellow-rayed; sternum keeled on the sides, black, yellow-varied; head and body black, yellow spotted.

a. Animal dry and in spirits. India, Bengal. From M. Piquot's collection.

The Isigame. Emys Japonica. E. palustris, var. Japonica, *Schlegel*, *F. Japon. t.* 8, *f.* 1—4 young, *t.* 9, adult. E. vulgaris, var. Japon. *Schlegel*, *F. Japon.* 53.

Shell oblong, (when young suborbicular, strongly denticulated behind), ochraceous yellow above, black beneath; shield concentrically striated, becoming smooth; vertebral shields broad, six-sided; temples black-lined; upper jaw not nicked.

a and *b*. In spirits, adult and half grown. Japan. From the Leyden Museum.

C. *Vertebral shield broad*, 6-*sided*. *European*.

The Caspian Emys. Emys Caspica, *Schw. Dum. & Bib. E. Gen.* ii. 223. *Wagler*, *Amph. t.* 5, *f.* 1—4. *Icon. t.* 24. *Eichw. Fauna Casp. Caus.* 45, *t.* 3, 4. Testudo Caspica, *Gmel. Reese.* ii. 59, *t.* 20, 11. *S. N.* i. 1042. E. lutraria, var. δ. *Merrem*, *Tent.* 25. E. Syriaca, *Licht. Berl. Mus.* E. vulgaris, *Gray*, *Syn.* 24. *Schlegel*, *F. Japon.* 53. E. palustris v. Dalmatia, *Schlegel*, *F. Japon. t.* 8, *f.* 4. E. Sigritzii, *Michaell*, *Isis*, 1829, 1295. E. Sigritz, *Dum. & Bib. E. Gen.* ii. 240. E. lutraria, *Bell*, *Test. t.* 1, 2. *Gray*, *Griffith*, *A. K. t.* . E. leprosa, *Schweig. Prod.* 298. E. marmorea, *Spix. Braz.* 13, *t.* 10. *Gray*, *Syn.* 28. *Dum. & Bib. E. Gen.* ii. 248. Testudo Græca, *Pallas*, *Z. R. A.* iii. 17.

Shell ovate, oblong, depressed, olive, with black-edged yellow netted lines; shields flat, vertebral, broad, six-sided; sternum flat, black and yellow varied; head yellow-lined.

a. Shell only, 4½ inches. Europe. Presented by Thomas Bell, Esq.

b. Shell only, young, with three nodulose keels, $2\frac{1}{2}$ inches. S. Europe. Presented by J. E. Gray, Esq.
Griffith, A. K. t. , *f.* . E. lutraria, *Bell, Test. t.* 1, 2. E. Caspica, *Wagler, Syst. t.* 5, *f.* 1—3. *Amph. t.* 24.
c. Adult, $6\frac{1}{2}$ inches. S. Europe.
d. Adult, animal and shell. Europe (Nantes?) Presented by J. E. Gray, Esq.

D. *Vertebral shield broad, 6-sided. America.*

* *Shell with a continuous keel, neck not streaked, sternum nicked behind.*

Two Spotted Emys. Emys Muhlenbergii, *Schweig. Prod.* 310. *Gray, Syn.* 25. *Dum. & Bib. E. G.* ii. 304. *Holbrook, N. Amer. Herpet.* i. 59, *t.* 5. Testudo Muhlenbergii, *Schoepf. Test.* 152, *t.* 51. Emys biguttata or bipunctata, *Say, J. Acad. N. S. Phil.* iv. 205.

Shell oval-oblong, smooth, low, slightly keeled, contracted on the sides; shields slightly radiately and concentrically grooved, chesnut, with yellow areola; nuchal linear; head blackish, with two large, irregular, fulvous, occipital spots.

Inhabits North America, New Jersey and East Pensylvania. Rare. Mus. Paris.

The Engraved Emys. Emys pulchella, *Schweig.* 303, (not *Schoepf.*) *Dum. & Bib. E. G.* ii. 251. E. scabra, *Say, J. Acad. N. S. Phil.* iv. 204, (not *Linn.*) E. insculpta, *Leconte, Ann. Ly. N. Y.* iii. 112. E. speciosa, *Bell, MSS. Gray, Syn.* 26. (Var. shield smooth). *Holbrook, N. A. Herpet.* iii. 17, *t.* 2. E. inscripta, *Mus. Par.* E. Muhlenbergii, var. *Schlegel, F. Jap.* 56.

Shell oblong, depressed, keeled in front, hinder edge slightly reflexed; shields radiately and concentrically grooved, minutely yellow and black dotted; areola small; nuchal slender; sternum yellow, areola posterior, marginal, black.

Inhabits N. America. Mus. Bell.

The Rough Emys. Emys scabra, *Gray, Syn.* 25. Testudo scabra, *Latr. Rept.* i. 148. *Daud.* iii. 129. *Bell, Test. t.* 1, 2. La raboteuse, *Lacep. Q. O.* i. 161, *t.* 10. T. verrucosa, *Latr. R.* i. 156. *Daud.* ii. 134. Emys dorsata, *Schoepf. Test.* 136. *Schweig.* i. 297—425. E. dorsalis, *Spix. Braz.* i. *t.* 96, young. Testudo punctularia, *Daud. R.* ii. 549. *Schweig.* 305. *Gray, Syn.* 25, 13. *Dum. & Bib. E. G.* ii. 243. *Schlegel, F. Jap.* 55.

Shell oblong, convex, brown, slightly keeled, flattish above, and shelving on the sides; shields blackish edged; nuchal very short; head blackish, with an orange spot on each nostril or band over each eyebrow, and a large spot on each side of the nape; tail short.

Inhabits Tropical America. Mus. Bell.

** *Back tubercularly keeled, neck streaked.*

The Geographic Emys. Emys geographica, *Lesueur*, *Jour. Acad. N. S. Phil.* i. 86, *t.* 5. E. Lesueurii, *Gray*, *Syn. R.* 31. E. pseudographica, *Lesueur*, *MSS.*

Shell ovate, convex, smooth, tubercularly keeled in front and slightly toothed behind, olive-brown, with black-edged anastomosing pale lines; 1st and 5th vertebral plate broad, five-sided, rest broad, six-sided; sternum yellow; shields blackish-edged, under side of the marginal plates olive, with rather concentric, black-edged, broad and narrow pale lines; head and feet with numerous yellow lines, and a yellow streak on each temple.

a. Animal and shell. The head and throat with broad yellow lines, a dark spot in the upper part of the hinder margin of the two front costal shields. N. America. From Mr. Cuming's collection.

b. Animal and shell. The head and throat with narrow yellow lines, a dark spot in the middle of the hinder edge of the two front costal shields. N. America. From M. Parzudati's collection.

The Large-head Emys. Emys megacephala, *Holbrook*, *N. A. Herpet.* i. 51, *t.* 3.

Shell suboval, flattened, keeled, serrated and acute behind, very dark brown, with obscure orange lines; sternum oblong, slightly nicked behind, dingy yellow; head very large; jaws entire.

Inhabits N. America. Cumberland river, Tennessee, *Troost.*

Bennett's Emys. Emys Bennettii, *Gray*, *Des. Cat. Rept.* (ined.) 13, *n.* 32.

Shell oblong, rather convex, bluntly and subtubercularly keeled, expanded and entire behind; shields dark horn-colour, concentrically grooved, with a broad blackish edge; the vertebral shields as broad as long, 1st squarish, convex, 2nd, 3rd and 4th six-sided, 5th rounded in front, three-sided behind, nuchal plate oblong; beneath yellow, with the middle of the sternal plates, all but the edge of the axillary and inguinal plates, and a very large spot rather nearer the hinder edge of the marginal shields, black: animal olive; head and neck with black and yellow lines.

Inhabits North America? Mus. Zool. Soc.

*** *Shell keelless or only keeled when young, neck streaked, the three front middle claws often elongated, straight.*

The Potter or Red-bellied Terrapen. Emys serrata, *Say*, *J. A. N. Philad.* iv. 204. *Harlan*, *Amer. Erpet.* 78. *Gray*, *Syn.* 29. E. serrata, var. *Schlegel*, *F. Japon.* 58. E. irrigata,

Bell, MSS. Dum. & Bib. E. Gen. ii. 276. E. reticularia, *Bell, MSS.* (not *Say*). T. rubriventris, *Leconte, Ann. L. N. York.* iii. 101. *Dum. & Bib. E. G.* ii. 281. *Holbrook, N. A. Herpet.* 7, *t.* 6.

Shell oblong, longitudinally rugose, slightly toothed behind; olive-brown, varied with irregular pale cross bands, and a ring round the areola; vertebral shields bluntly keeled, 1st urceolate, rest long, sides shelving, beneath yellow, with slightly eyed spots on the sutures of the marginal plates; sternum flat, with a dark-edged pale streak on the sutures, between the outer sides of the sternal and marginal plates.

a. Animal and shell, 11½ inches. N. America.
b and *d.* Shell only, 14 inches. N. America.
c. Half grown, 6½ inches. N. America.

The Netted Emys. Emys rivulata.

Shell oblong, brown, varied with yellow, with a broad central depression, sides longitudinally rugose, hinder edge rather expanded, simply serrated; nuchal plate elongate; first vertebral plate urceolate, 2nd and 3rd elongate, six-sided, the costal plates with a subcentral, forked or branched, horizontal, yellow band; under side white, varied with irregular dusky clouds, forming obscure rings on the marginal plates.

a. Shell only, 9½ inches long. N. America.

D'Orbigny's Emys. Emys D'Orbignii, *Dum. & Bib. E. Gen.* ii. 272. *D'Orbigny, Voy. Amer. Merid. Rept. t.* 1.

Shell ovate, swollen, nearly smooth, keelless, slightly toothed behind, chesnut-brown, with a black dorsal streak and large triangular black spots on the edge of the disk; first vertebral shield pear-shaped; sternum black, irregularly edged with yellow; upper jaw nicked.

Inhabits S. America, Buenos Ayres. Mus. Paris.

The Beautiful Emys. Emys ornata, *Bell, MSS. Gray, Syn.* 30. *Beechey, Voy. t.* . *Dum. & Bib. E. G.* ii. 286, (not *Synon.*)

Shell oblong, longitudinally rugose, olive; vertebral shields irregularly ringed, 1st four-sided, 2nd and 3rd rather long, six-sided, costal and marginal shields with black-edged pale rings having a black central dot; beneath yellow, with round ringed spots on the suture of the marginal plates, and with a dark-edged, irregular, greenish line down the centre of the sternum, and a double one the whole length of the sterno-costal symphysis; head and neck with narrow yellow lines.

a. Animal and shell, adult, 6 inches. Tropical America.
b. Shell only, adult, 12 inches. T. America. Presented by J. E. Gray, Esq.
c. Young, dry, 1½ inch. T. America.
d and *e*. Young, in spirits, 2 inches. Mazet Land, *Gray. Beechey, Voy. t.* Presented by Alexander Collie, Esq., R.N.

The Oregon Emys. Emys Originensis. *Harlan, Amer. Jour. Sci.* xxxi. 382, *t.* 31. *Holbrook, Amer. Herpet.* ii. *t.* 1.

Shell suboval, greatly depressed, serrated in front, slightly nicked behind, dusky brown, with a narrow yellow forked line; anterior vertebral irregular, four-sided, marginal plates each with two half oblong spots; sternum broad, oblong, serrated anteriorly, emarginate posteriorly, yellow, with a black blotch extending to all the plates; head small, elongate; upper jaw bidentate.

N. America. Oregon river, *Dr. Nuttall.*

The Lettered Emys. Emys scripta, *Merrem, Tent* 24. *Gray, Syn.* 29. Testudo s. *Schoepf.* 16, *t.* 3, *f.* 4, 5. *Shaw, Zool. t.* 12 *Daud. R.* ii. 140. T. serrata, *Daud. R.* ii. 148, *t.* 21, *f.* 1, 2. *Schoepf. t.* 3, *f.* 5. *Schweiger*, 301. *Dum. & Bib. E. G.* ii. 267. *Holbrook, N. A. Herpet.* ii. 31, *t.* 5. Testudo rugosa, var. *Shaw, Zool.* iii. 29.

Shell oblong, longitudinally rugose, keelless, slightly toothed behind, brown, irregularly yellow ringed, and with irregular yellow streaks on the sides; nuchal shield linear, porrect; vertebral shields bluntly keeled, 1st urceolate, 4th and 5th six-sided: under margin with a black spot on the back edge of each plate; sternum rather convex, yellowish, with a spot on the centre of each gular plate, and four on each side of the costo-sternal symphysis; head with a yellow central line, and a triangular spot behind each eye.

a. Adult. N. America. Middle and front claws moderate, sternum with solid black spot in front.
b. Young, 8 inches. Presented by Gen. Thomas Hardwicke.
c. Half grown. N. America. Three middle front claws elongate, sternum with black rings.
d. Half grown. N. America. Presented by J. E. Gray, Esq.
e. Half grown; in spirits. Three middle front claws elongate, sternum with black spots. N. America. From the Leyden Museum.

Holbrook's Emys. Emys Holbrookii.

Shell oblong, rather convex, scarcely keeled, longitudinally rugose, pale, each shield with two oblong concentric rings, those of the vertebral plates longitudinal, of the costal transverse; marginal plates each occupied with two half round spots, formed of concentric rings; sternum yellow, with a large black spot on each

shield, and with two large oblong spots of irregular concentric rings on each sterno-costal suture; nuchal plate elongate, 1st vertebral square, rather longer than broad, others wide, six-sided.

a. Shell only. N. America. Louisiana. From Mr. J. Drummond's collection.

The Dark Hicotee. Emys rugosa, *Gray, Syn.* 30. *Dum. & Bib. E. G.* ii. 284. Testudo r. *Shaw, Zool.* iii. 28, *t.* 4. E. rugosa, *Sagra, Cuba Rept. t.* 2. Var. sternal shield pale, black-edged.

Shell ovate, oblong, rather tubercularly keeled, black above and below, ornamented with yellow spots and lines, hinder edge slightly serrated; shields rugulose; areola indistinct; vertebral shields 1st long, urceolate, 2nd, 3rd and 4th long, six-sided, 5th broad, six-sided, marginal shields yellow, black-dotted. "Animal brown, from head and nape greyish, with a pale streak from the back of each eye."—*Sagra.*

Inhabits America. Mus. Col. Surg.

The Hicotee. Emys decussata, *Bell, Test. t.* 1. *Gray, Syn.* 28. *D. C.* ii. 22. *Sagra, Cuba Rept. t.* 1. Testudo serrata, *Daud.* (not figure). Emys s. *Schweig.* E. serrata, var. *Schlegel, F. Jap.* 58.

Shell oblong, bluntly keeled, hinder edge slightly toothed; dorsal shields rugulose, irregularly radiately grooved, uniform pale brown, beneath yellowish, with obscure subocellate spots on the axillary, inguinal, and on the suture of the marginal plates: animal greenish; cheek and throat indistinctly pale lined.

a. Animal and shell, half grown. 6½ inches. West-India Islands, Cuba? Presented by John Edw. Gray, Esq.

b and *g*. Half grown, or younger, 6 inches.

c. Shell and skeleton, adult, 10 inches. Presented by J. E. Gray, Esq.

d. Shell only, adult, 9½ inches. C. America.

e. Shell only, adult; and *f*. Shell only, half grown, more mottled. Presented by J. E. Gray, Esq.

Troost's Emys. Emys Troostii, *Holbrook, Amer. Herpet.* i. 55, *t.* 4.

Shell broad, depressed, squarish, blackish, varied with greyish blotches, slightly serrated before and deeply behind; plates slightly longitudinally rugose, vertebral plates broader than long, the 1st small, narrow, urceolate, 1st and 3rd very bluntly keeled, nuchal plate very narrow, convex; sternum broad, dirty yellow, plates edged and varied with black; head long, narrow, olive; throat pale olive, with paler lines; upper jaw emarginate, lower with a tooth; claws elongate, stout.

a. Animal and shell in spirits. With a large, oblong, black spot on the centre of each sternal plate. N. America, Cumberland River. From the Leyden Museum.

The Vermiculated Emys. Emys vermiculata.

Shell oblong, rather depressed, bluntly keeled, longitudinally rugose, dark brown, pale spotted; hinder margin rather dilated, toothed; under surface rather convex, pale, with a multitude of small confluent black spots often suffused; sternal shields dark-edged, front and marginal plates vermiculated with black dots; nuchal shield elongate; first vertebral plate 4-sided, suburceolate, broader than long, second elongate suburceolate, margin not ringed beneath.

a. Shell only, $6\frac{1}{2}$ inches. Vertebral plates irregular. Tropical America?

b. Shell only, $9\frac{1}{2}$ inches. Sternum pale, dark clouded. Tropical America.

The Mobile Emys. Emys Mobilensis, *Holbrook*, *N. Amer. Herpet.* ii. 53, *t.* 9.

Shell oval, keelless, convex anteriorly, depressed posteriorly, entire in front, emarginate and subserrated behind, olive with forked lines, longitudinal upon the vertebral, transverse on the costals; the first vertebral plate urceolate; jaws serrated, inferior furnished with a hook; sternum yellow, slightly clouded with black, margin with a yellow-ringed black half spot on each edge. Animal very like A. Floridana, but streaks broader.

Inhabits N. America, at Mobile, Alabama.

The Neat Emys. Emys concinna, *Dum. et Bib. E. G.* ii. 289. Testudo concinna, *Leconte*, *Ann. Lyc. N. Y.* iii. 106.

Shell oblong, depressed, keelless, very smooth, nicked behind, dark brown varied with yellow netted lines; first vertebral plate 6-sided, second, third and fourth broad 6-sided, nuchal shield small, oblong: beneath yellow, with large black sutural spots on the margin; head and neck yellow-lined.

Inhabits N. America.

The Chicken Tortoise. Emys reticularia, *Merrem*, *Tent.* 29. *Gray*, *Syn.* 27. Testudo reticularia, *Latr.* i. 124. T. reticulata, *Bosc.* *Daud. Rept.* ii. 144, *t.* 22, *f.* 3. *Schwæg.* 50. *Say*, *Jour. N. S. Phil.* iv. 204, 109. *Dum. et Bib. E. G.* ii. 291. *Holbrook*, *N. Amer. Herpet.* ii. 41. Emys geographica, *Mus. Bell.*

Shell oblong, keelless, olive brown, pale netted, longitudinally rugose, hinder edge entire; shields with a black-edged pale ring round the areola sending out radiating lines; first vertebral quadrate, rest squarish, 6-sided, with three or four round black spots placed on the sutures of the under side of the lateral marginal

plates, and some linear spots on the sutures of the hinder ones, an oval eyed spot at each end of the sterno-costal symphysis.

Inhabits North America. Mus. Bell. Young.

The Large-headed Emys. Emys macrocephalus. E. megacephalus, *Gray*, *Desc. Cat. Rept.* 13, *n.* 33 (ined.), not Holbrook.

Shell oblong, convex, subtubercularly keeled, reddish brown, darker on the edge of the shields, concentrically grooved; nuchal plate broad, margin slightly expanded; vertebral plates 6-sided, broader than long, first 5-sided, narrower, rather contracted on the hinder side; sternum yellow, black varied, symphysis, the small long axillary plate, and underside of marginal plate black, the latter with a large triangular central yellow spot; head very large, blackish, with a pale streak from the back edge of the eye. Animal grey, with small black scales.

Inhabits ——— America? Mus. Zool. Soc.

The Florida Emys. Emys Floridana, *Leconte*, *Ann. Lyc. N. Y.* iii. 100. *Dum. et Bib. E. Gen.* ii. 285. *Holbrook*, *N. A. Herpet.* ii. 47, *t.* 8. Test. Floridana, *Leconte*, *Ann. Lyc. N. Y.* ii.101.

Shell oval, gibbous, longitudinally rugose, slightly carinated and entire behind, dark brown, with irregular yellow lines; nuchal shield triangular, beneath yellow, with a half black spot on each edge of the marginal plate above and below; jaws toothless; first vertebral urceolate, second and third hexagonal; plates olive, with several irregular black streaks, longitudinal on the vertebral and transverse on the costal plates; head and neck dark olive with two pale streaks for each eye, and two on each side of the neck below, the upper one with a branch to the eyes, the inferior pair united together in front of the throat with a single streak to the chin.

Inhabits N. America, Florida.

The Hieroglyphic Emys. Emys hieroglyphica, *Holbrook*, *Amer. Herpet.* i. 47, *t.* 2.

Shell oval, depressed, keelless, smooth, entire in front, elongated and imperfectly serrated behind; sternum oblong, nicked behind, dingy yellow, sides olive varied; head very small, upper jaw slightly emarginate, lower jaw with a tooth; first vertebral urceolate; each costal shield with four or five, and each marginal with dark spots with concentric yellow lines.

a. Animal and shell stuffed, (rather discoloured?). America? Presented by John Edward Gray, Esq.

**** *Shell keelless, neck and shell yellow-spotted.*

The Speckled Tortoise. Emys guttata, *Schneider*, 309, 433. *Gray*, *Syn.* 26. *Dum. et Bib. E. G.* ii. 295. *Holbrook*, *N. A. Herpet.* ii. 25, *t.* 4. Testudo guttata, *Bechst. in Lacep. Q. O.* i. 310. *Shaw*, *Zool.* iii. t. 10. T. punctata, *Schneid. Schildk.* 30. *Daud.*

R. ii. 159, *t.* 22. *Schoepf. t.* 5. *Wagler, Syst. t.* 5, *f.* 6, 7. T. anonyma, *Schw. Seba*, i. 130, *t.* 80, *f.* 7. *Gothv. Schildk, f.* 15.

Shell ovate, depressed, dilated behind; shields smooth, black-brown with round yellow spots; nuchal linear; sternum yellow brown varied; head yellow-spotted.

a. Animal and shell. Inhabits N. America. Presented by Henry Doubleday, Esq.
b. Shell and dry animal.

E. *Sternum broad and truncated at each end*, (Chrysemys).

The Painted Tortoise. Emys picta, *Schweig.* 306. *Gray, Syn.* 26. *Dum. et Bib. E. G.* ii. 297. *Holbrook, N. A. Herpet.* ii. 19, *t.* 3. Testudo p. *Herm. Schneid. Sch.* 348. *Schoepf. t.* 4. *Shaw, Zool. t.* 10, *f.* 1. *Seba*, i. *t.* 80, *f.* 5. T. cinerea, *Brown, Illust. t.* 48. *Shaw, Zool. t.* 12. *Schoepf. t.* 3, *f.* 2, 3. Young.

Shell oblong, depressed, keelless, very smooth, shields thin, olive-brown, with a broad yellow or red margin; head and throat black, yellow-lined; tail long, slender.

f. Animal and shell. Presented by Henry Doubleday, Esq.
b. Shell and dry animal. Presented by J. E. Gray, Esq.
a. d. & e. Shell only. N. America.
g. Young, in spirits. N. America.
c. Young, from spirits.

Bell's Emys. Emys Bellii, *Gray, Syn.* 31. *Dum. et Bib. E. G.* 302. E. speciosa, *Clift, Cat. Mus. Col. Surg. n.* 1525, (not Gray).

Shell oblong, solid, rather depressed in the centre, convex on the sides, olive waved with irregular black-edged pale-dotted greenish lines placed on the edge and across the middle of each shield; vertebrals nearly square, first urceolate, the rest 6-sided; beneath black, yellow-dotted; sternum flat, surrounded with an irregular yellow edge, front edge deeply denticulate.

Inhabits America? Mus. Col. Surg.

F. *Sternum acute at each end.* Emyoides.

The Sharp-chested Emys. Emys kinosternoides, *Gray, Syn.* 32. E. cinosternoides, *Dum. et Bib. E. G.* ii. 303.

Shell (very young) oblong, depressed, pale brown, with a blunt white keel, margin whitish, serrated, beneath yellow, spotless, shields of the disk marked with irregular black-edged white lines: head brown white-streaked, beneath pale. Length $1\frac{1}{2}$ inch.

Inhabits ——— ? Mus. Col. Surg.

G. *Species only known in the very young state.*

The Ringed Emys. Emys annulifera, *Gray, Syn. R.* 32.

Shell (very young), oblong, depressed, entire behind, the shield

pale brown, lined and ringed with yellow; the vertebral shields with a narrow central row of rings and a larger series on each side; the costal shields brown, white-lined, the marginal ones with concentric slightly eyed squarish brown rings placed upon the suture and occupying half of two shields; beneath pale, with an irregular brown spot and lines placed on the sutures; sternum rounded before truncated behind; head with numerous unequal white lines.

a. Young, dry. Inhabits ——— ?

The Eyed Emys. Emys oculifera, *Gray*, *Syn.* 22. Testudo oculifera, *Kuhl*, *Beitr.* 77

Shell (very young) hemispherical, strongly toothed behind; shields elevated, furrowed, granulated, grooved, each two connected longitudinally by a largish round black spot, and horizontally by a largish black circle, consequently each displaying two half eyes and anteriorly and posteriorly two half spots; margin with a spot on each suture, the points of which correspond with the spot on the costal shield; sternum yellow, with dark brown spots and streaks.

Inhabits S. Africa, Cape of Good Hope? Mus. Berlin.

Kuhl's Emys. Emys Kuhlii, *Gray*, *Syn.* 73,

Shell brown, with two broad white long streaks on each side of the vertebral plates and one on each costal, netted with pale lines, margin half-ringed on the suture; sternum with irregular black-eyed rings in the centre of each plate; the head and neck black-lined.

Inhabits ——— ? Mus. Berl.

3. Malaclemys.

Head very large, depressed, covered with a soft spongy skin. Jaws exposed. Chin not bearded. Legs short. Toes 5-4, short. webbed, claws subequal, curved, sharp. Tail conical. Shell depressed, oblong. Sternum solid, truncated before nicked behind, affixed by a bony symphysis. Axillary and unguinal plates distinct. Living in salt-water marshes, moves quickly on land. Torpid in winter. Egg oval: flesh well flavoured. America.

Salt-water Terrapin. Malaclemys concentrica. Testudo concentrica, *Shaw*, *Gen. Zool.* iii. 43, *t.* 9, *f.* 1. *Gray*, *Syn.* 27. *Bell*, *Test. t.* . *Dum. et Bib. E. G.* ii. 261. Terrapin, *Brown*, *Jam.* 466. Le Terrepine, *Lacep. Q. O.* i. 129. T. Terrapin, *Schoepf. Test.* 64, *t.* 15. *Holbrook*, *N. A. Herpet.* ii. 13, *t.* 2. T. palustris, *Gmel. S. N.* i. 1041? *Leconte*, *Ann. Lyc. N. Y.* iii. T. centrata, *Latr. R.* i. 145. *Daud. R.* ii. 153. *Schweigr.* i. 304. *Say I. A. N. S. Phil.* iv. 205. Emys livida, *Bell*, *MSS.*

Shell oval, rather convex, slightly tubercularly keeled; shields (and the bone under them) pale yellow, marked with brown con-

centric rings, which are often impressed; animal grey, black-spotted and lined.

a. Smooth, highly coloured. N. America. Presented by Gen. Th. Hardwicke.
b. Like *a*. Presented by the Earl of Derby.
c. Like *a*. Presented by Gen. Th. Hardwicke.
d. Smooth, distinctly ringed, 6 inches. N. America. Presented by Gen. Th. Hardwicke.
e. & *f*. Shell only: like *d*.
g. Shell and animal, dry: like *d*.
h. Shell only (young); the three central vertebral plates with a central tubercle, the hinder tubercle orbicular. M. tuberculifera, *Gray*, *B. M.* California. Mr. J. Drummond's collection.
i. Shell only. Mus. Sloane.

4. Tetraonyx, *Lesson*.

Head moderate, covered with a thin skin; chin not bearded. Feet largely webbed. Toes 4-4. Tail moderate. Shell oval, rounded, depressed. Sternum solid, broadly truncated before, nicked behind, affixed to the thorax by a bony symphysis, covered with the end of the pectoral and abdominal plates. Axillary and inguinal plates —— ?

The Batagur. Tetraonyx Batagur. Emys batagur, *Gray*, *Syn.* 24. *Illustr. Ind. Zool.* iii. *t.* Testudo Batagur, *B. Hamilton*, *MS.* E. Tetraonyx, *Schlegel*, *F. Japon.* 43. Tetraonyx longicollis, *Lesson*, *Belanger's Voy.* 297. *Illust. Zool. t.* 7. Tet. Lessonii, *Dum. et Bib. E. G.* ii. 338, *t.* 16, *f.* 1. Trionyx Cuvieri, *Gray*, *Syn. Rept.* 5. Emys Baska, *Gray*, *Illust. Ind. Zool. t.* *B. Hamilton MS. Icon.* (very young). *Dum. et Bib. E. G.* ii. 341. E. Spengleri var. *Schlegel*, *F. Japon.* 51.

Shell suborbicular, depressed, slightly keeled, entire, dilated behind, pale olive.

Inhabits India, "Calcutta, common," *Blythe*. Mus. Bell, young. Mus. Paris. of a large size, and young.

5. Cistuda, *Fleming*. Kinosternon, part, *Bell*. Pyxidemys, *Fitz*.

Head moderate, covered with a thin hard continued skin. Toes 5-4, webbed to the claws, web thick, with a small intermediate lobe between the claws. Tail short. Shell ovate, convex or hemispherical. Sternum broad, rounded before and behind, completely closing the cavity of the thorax, affixed to it by a ligamentous symphysis and divided by a cross suture between the pectoral and abdominal plates. Sternal shields 12. Inguinal and axillary plates very small and distinct. Marginal plates 23—27. Nuchal plate small or wanting. Old and New World.

* Shell convex, edge entire. *Cistuda.*
** Shell convex, edge toothed. *Cyclemys.*
*** Shell depressed, edge entire. *Lutremys.*

a. *Shell convex, edge entire.* Cistuda.

The Box Tortoise. Cistuda Carolina, *Gray*, *Syn.* 18. Testudo Carolina, *Linn. S. N.* i. 352. *Dum. et Bib. E. G.* ii. 210. *Holbrook*, *N. A. Herpet.* iii. 9, *t.* 1. T. brevicauda, *Lacep. Q. O.* i. 164. T. clausa, *Gmelin*, *S. N.* i. 1043. *Daud. R.* ii. 207. *Schoepf. t.* 7. *Shaw*, *Zool. t.* 7. *Guérin*, *Icon. t.* 1. *f.* 2. T. virgulata, *Latr. R.* 100. *Daud. R.* ii. 201. *t.* 23. T. incarcerata and T. incarcerata striata, *Bonnat*, *Ency.* 29. T. carinata, *Linn. S. N.* i. 353. *Schn.* 361. Emys dubia, *Schw.* E. Schneiderii, *Schw.* 317. Terrapene guttata (or T. maculata) and T. nebulosa, *Bell*, *Zool. Jour.* ii. 309. La Bombe, *Lacep. Q. O.* i. 164. C. Blandingii, *Holbrook*, *N. A. Herpet.* iii. 35, *t.* 5? *Grew*, *Mus.* 38, *t.* 3, *f.* 2. *Edw. Birds*, *t.* 205. Checkered Tortoise, *Penn. Arct. Zool.* ii. 228.

Shell hemispherical, slightly keeled, brown, yellow-varied; shields grooved; marginal plates 23—27. Animal black, yellow or red spotted.

a. Stuffed, yellow, black-rayed, beneath brown. N. America. Presented by J. E. Gray, Esq.
b. Stuffed, black, yellow-spotted. N. America. Presented by Jacob Green, M.D.
c. Shell only, small var. olive, yellow-rayed, beneath olive, yellow spotted and streaked. N. America. From Mr. Drummond's collection.
d. Upper shell only, yellow, black-rayed. N. America.
e. Young, discoloured, animal dry. N. America. Presented by Gen. Th. Hardwicke.
f. Shell only, bad state, black, yellow-spotted. N. America.
g. Upper shell only, some plates wanting, black, yellow-spotted. N. America. From Dr. Mantell's collection.
h. Upper shell only, black, yellow-spotted. N. America.
i. Dry animal, yellow, black-rayed. N. America. Presented by Gen. Th. Hardwicke.
j. Stuffed, brown, with few yellow spots. N. America.
k. Animal and shell, rather elongate, beneath brown. N. America. Presented by H. Doubleday, Esq.

The Couro. Cistudo Amboinensis, *Gray*, *Syn.* 19. *Illust. Ind. Zool.* t. *Dum. et Bib. E. G.* ii. 215, *t.* 15, *f.* 2. Testudo amboinensis, *Daud. Rept.* ii. 309. T. Couro, *Leschn. Mus. Par.* Emys Amboinensis, and E. Coura, *Schw. Prodr.* i. 214, 315. Terrapena bicolor, *Bell*, *Zool. Journ.* ii. *t.* 16. E. Couro, var. *Schlegel*, *F. Japon.* 64.

Shell hemispherical, slightly three-keeled, blackish, margin broad expanded; nuchal shield linear; sternum black and yellow varied; animal blackish, yellow-varied, head dark, with two broad yellow streaks on the side.

a Adult, stuffed, $6\frac{1}{2}$ inches. India. Presented by Thos. Bell, Esq., F.R.S.

b. Young, head and feet dry, 3-keeled, $2\frac{3}{4}$ inches. Illustr. Ind. Zool t. 6. Presented by J. E. Gray, Esq.

c. & *d*. Young, in spirits, the youngest with granular shields, and the costal shields with a keel rather above the centre. Philippine Islands, from Mr. Cuming's collection.

e. Half-grown, stuffed. Singapore.

f. Adult in spirits. Amboina, from the Leyden Museum.

The Three-streaked Coura. Cistudo trifasciata, *Gray, Syn.* 19 *Illust. Ind. Zool. t.* *Dum. et Bib. E. G.* ii. 219. Sternotherus trifasciatus, *Bell, Zool. Jour.* ii. 299, *t.* 13. Emys Couro, var. *Schlegel, F. Japon.* 64.

Shell subovate, hemispherical, solid, keeled, dull yellow, red and black varied, with three blackish dorsal streaks; sternum bifid behind; head yellow, with two horizontal black streaks on the side of the head and neck, upper wider, with a triangular paler spot in front and two larger oval ones behind.

a. Shell and dry animal. Shell subovate. China. Presented by J. Reeves, Esq. Ditto, upper shell only.

b. Shell only. Shell depressed and expanded. China. Presented by J. Reeves, Esq.

c. Shell only. Shell elevated, thick, worn on the surface. China. Presented by J. Reeves, Esq.

d. Upper shell only, like *a*. China.

b. *Shell depressed, edge entire.* Lutremys.

The Speckled Tortoise. Cistudo Europæa, *Gray, Syn.* 12. *Dum. et Bib. E. Gen.* ii. 220. *Eich. Fauna Casp. Cauc.* 44. *Schlegel, F. Japon.* 52. Testudo Europæa, *Schw. Schildk.* 323. *Shaw, Zool.* iii. *t.* 8. *Schoepf. t.* 1. *Bojanus, Anat. t. Sturm, Fauna, t.* a, b, c. *Wagler, Amph. t.* 5, *f.* 8, 9. T. flava, *Lacep. Q. O.* 135, *t.* 6. T. punctata, *Gottw. Schildk. t.* k, *f.* 12. T. orbicularis, *Linn. S. N.* i. 351. *Wulf. Borus.* 3. T. lutraria, *Rondel. Pisc.* ii. 170. *Gesner, Q. O.* ii. 113, *f.* 5. *Aldrov.* 710. *Brünn. Adriat.* 91. *Herm.* T. pulchella, *Schoepf. t.* 26, *young.* T. Meleagris, *Shaw, Nat. Misc.* iv. 144, (shell polished). Emys Hellenica, *Valenc. Voy. Morea, t.* 8, *f.* 2. E. antiquorum, *Val. Voy. Morea, t.* 8, *f.* 1.

Shell depressed, ovate, brown, with radiating lines of yellow

dots; sternum slightly nicked behind; head and body black, yellow-dotted; tail elongate.

a. Shell only, adult, brown, yellow-dotted. S. Europe.
b. Shell and dry animal, brown, yellow-dotted, 6½ inches. Europe
c. Young, brown, paler rayed, hinder half only with dry animal. T. pulchella, *Schoepf.* Presented by Thomas Bell, Esq.
d. Young, in spirits. Albania. Presented by W. W. Saunders, Esq.

c. *Shell depressed, toothed.* Cyclemys.

The Dhor. Cistuda dentata. Emys dentata, *Gray*, *Illust. Ind. Zool. t*, , young. E. Dhor or E. dentata, *Gray*, *Syn.* 20, *t.* 8, 9. E. Hasseltii, *Boie*, *Mus. Leyd.*, young. E. Spengleri, var. *Schlegel*, *F. Jap.* 51. Cyclemys orbiculata, *Bell. Pr. Zool. Soc.* 1824, 17, adult. Cis. Diardi, *Dum. et Bib. E. G.* ii. 227.

Shell suborbicular, back flattened, keeled, hinder edge toothed sternal shields yellow, brown-rayed.

a. Young, in spirits. Suborbicular, depressed, brown, black-dotted, bluntly keeled, edge acutely toothed, sides of neck and throat yellow-lined, feet yellow-spotted. Java. Presented by Thomas Bell, Esq.
b. Young, in spirits. Java. From the Leyden Museum.

6. Kinosternon, *Spix.* Terrapene, *Merrem.* Sternotherus, *Bell.*

Head moderate, covered with a hard thin skin. Chin bearded. Feet and tail nearly naked, with a few scattered scales. Shell ovate. Sternum rounded in front or two-lobed behind, middle lobe covered by the abdominal plates, fixed by a bony symphysis to the thorax, front and hinder lobe more or less free, articulated to the middle lobe: sternal shields 11: gular pair united. Axillary and especially the inguinal plates very large, covering the suture. America.

a. Sternum lobes as broad as the opening, rounded before and acute and entire behind. *K. scorpoides.*
b. Sternum lobes narrower than the opening, nicked behind. *K. oblongum*, and *K. Pennsylvanicum.*
c. Sternum lobes much narrower than the opening, truncated behind. *K. odoratum.*
d. Sternum lobes very narrow, acute at each end. *K. triporcatum.*

a. *Sternum lobes as broad as the opening, rounded in front, entire behind.* Swanka.

The Swanka. Kinosternon scorpiodes, *Gray*, *Syn. R.* 24. *Wagler*, *Syst.* 137, *t.* 5, *f.* 31—43. *Bell. Test. t. f.* . *Dum. et Bib. E. G.* ii. 365. K. Shavianum, *Bell. Zool. Journ.* ii. 304. K. longicaudatum, and K. brevicaudatum, *Spix*, *Braz. t.* 12, 13.

Testudo Scorpoides, *Linn. S. N.* i. 152. Emys scorpoidea, *Schw. Prod.* i. 312. T. Pensylvanica, var. *Shaw, Zool.* iii. *t.* 15. T. tricarinata, *Daud.* ii. 178. *Schoepf. t.* 2. *Shaw, Zool.* ii. *t.* 11. T. Retzii, *Daud. Rept.* ii. 174.

Shell oblong, rather compressed, with three continuous keels; dorsal shields longly 6-sided, slightly imbricate; sternum as broad and large as the opening, lobes entire, broad, longer than the middle lobe; gular plate long, triangular, symphysis narrow, as long as the abdominal shields.

a. Shell only, swollen and convex, wanting some plates. C. America. Presented by J. E. Gray, Esq.
b. Stuffed (not good state), wants dorsal plates. C. America.
c. Animal dry, shell wants dorsal plates. C. America.
K. scorpoides, var. acuta, *Gray, Syn.* 14, *t.* 7, *f.* 1.
d. Adult, animal and shell in spirits. Back very convex, rounded. Tropical America. Presented by Thomas Bell, Esq.

b. *Sternum lobes narrower than the opening, truncated or nicked behind.* Kinosternon.

The Oblong Swanka. Kinosternon oblongum. Cinostermon hirtipes, *Wagler, Syst. t.* 5, *f.* 29, 30? *Icon. A. t.* 30? *Dum. et Bib. E. G.* ii. 570?

Shell oblong, smooth, olive, convex, flattish above, sternum oblong, narrower than the opening, entire in front nicked behind, head large, yellow-spotted, with a streak over each eye to the side of neck.

a. Shell and animal dry. Gular plate triangular as long as broad. America.
b. Shell and dry animal. Gular plate broad triangular. America.

Doubleday's Swanka. Kinosternon Doubledayii.

Shell narrow, oblong, smooth, sides convex, back flattened; sternum high on the sides, lobes much narrower than the cavity, rounded in front, bifid behind, the symphysis very short.

a. Shell only, much worn. California.

The Mud Tortoise. Kinosternon Pennsylvanicum, *Gray, Syn. t.* 6, *f.* 4. *Bell, Zool. Journ.* ii. 209. *Holbrook, N. A. Herp.* iii. 23, *t.* 3. *Wagler, Syst.* 137. *Dum. et Bib. E. G.* ii. 367. Testudo P. *Bosc. Gmelin, S. N.* i. 1042. *Schoepf. t.* 24, *f. a. Shaw, Zool. t.* 14, *f.* 2. *Daud. R.* ii. *t.* 24, *f.* 1 & 2. *Say, J. A. N. S. Phil.* iv. 266 *Merrem, Tent.* 27. Tentudo glutinata, *Daud. R. t.* 24, *f.* 4. *Schoepf. t.* 24, *f.* 6. Terrapene Boscii, *Mer.*

Shell roundish oblong, depressed, brown, keelless (3-keeled when young), dorsal shields flattened, lobe of sternum rather narrower than the cavity of the thorax, rounded in front bifid behind; head pale lined, chin 2-bearded; tail clawed; jaws notched.

a. Dry animal and much eroded shell. N. America.
g. Shell and stuffed animal. Presented by H. Doubleday, Esq.
b. Shell only, wanting hind lobe of sternum.
c. d. In spirits. Young. Shell black, white-spotted beneath. Animal grey-brown, white-dotted, head white-lined. East Florida. Presented by Edward Doubleday, Esq.
e. f. In spirits. Like *c* and *d*. Presented by Capt. Sir Edward Belcher, R.N., C.B.

The Stink-Pot. Kinosternon odoratum, *Gray, Syn. R.* 35, *t.* 6, *f.* 1. *Bonap. Osser.* 168. Testudo o. *Latr. R.* i. 122. *Daud. R.* ii. 189, *t.* 24, *f.* 3. *Say, J. Acad. N. S. Phil.* iv. 206, 216. *Bell, Zool. Journ.* ii. 299. *Holbrook, N. A. Herpet.* iii. 29, *t.* 4. Testudo Pennsylvanica, var. *Schoepf.* 110, *t.* 24, *f.* B. T. glutinata, *Daud. R.* ii. 194, *t.* 24, *f.* 5? Terrapene Boscii, *Merrem, Tent.* 23?

Shell ovate, keeled, sides sloping, pale brown, gular plate minute; sternum very narrow, truncated behind, symphysis elongate very narrow; "head with a brown lateral line; chin with several small warts, neck and throat papillary; tail simple; fore arm with three folds or large scales in front."

a. Shell only. N. America.

c. *Sternum very narrow, cross-shaped, acute behind and before, front lobe mobile.* Staurotypus, *Wagler.*

The Cross Emys. Kinosternon triporcatum, *Gray, Syn. R.* 76. Terrapene t. *Weigm. Isis*, 1828, 364. *Wagler, Syst.* 137, *t.* 5, *f.* 44, 45. *Icon. t.* 23. *Dum. et Bib. E. G.* ii. 356.

Shell oblong, convex, brown, three-keeled, the central one very large, high and cultrate behind, side ones highest in front; vertebral plates long, imbricate, nuchal plates short, broad; edge indented on the side, expanded and toothed behind; head depressed spotted and lined with white, chin 2-bearded; neck thick.

a. Young, in spirits. Pale brown varied with black. Mexico.

7. Chelydra, Schw. Emydosaura, *Dum. et Bib.*

Head very large rugose covered with a hard skin; chin 2-bearded; neck very thick, tubercular. Limbs large and strong, tubercular. Tail long, large, with a central longitudinal series of rather compressed tubercles. Shell depressed, toothed behind. Sternum slender, cross-like, acute at each end, centre coriaceous. Sternal plates 5 pair, very thin, skin-like, the narrow lateral prolongation of the sternum covered by a peculiar plate, (perhaps the removed abdominal). America.

The Alligator Terrapin. Chelydra serpentina, *Gray, Syn. R.* 36. C. Lacertina, *Schweigr.* 293. Testudo serrata, *Penn.* (*not Shaw*). *Cat. Liverpool Mus. t.* T. Serpentina, *Linn. S. N.* 351. *Schoepf. t.* 6, (young). *Daud. R.* ii. 98, *t.* 20, *f.* 2. *Shaw, Zool. t.*

19. *Dum. et Bib. E. G.* ii. 350, *t.* 17, *f.* 1. T. longicauda, *Shaw, Mus. Col. Surg.*

Shell oblong, depressed, centre impressed, doubly keeled, bluntly toothed behind. Younger; shell three-keeled, hinder edge sharply toothed. *Schoepf. t.* 6.

a. Young animal, stuffed. N. America. Presented by Gen. Hardwicke.
b. Adult.

8. Platysternon, Gray.

Head very large, covered with a thick hard horny case; jaws very strong. Neck very thick, short, subretractile, with small granular scales. Limbs very large, contractile, not capable of being retracted into the shell, covered with long lunate scales in front, and fringed on the outer hinder sides. Toes 5-4, webbed to the claws; claws very strong. Tail elongate, cylindrical. Shell depressed, expanded, thin, covered with thin horny shields. Sternum flat, broad truncated in front and behind, united to the thorax by a bony symphysis, covered with three small additional shields. Axillary and inguinal plates small or none. Sternal shields 12, gular pair very short, broad, band-like. Asia.

The Casked Terrapin. Platysternon megacephalum, *Gray, Pr. Zool. Soc.* 1831, 106. *Illustr. Ind. Zool. t.* *Dum. et Bib. E. Gen.* ii. 345. *Schlegel, Fauna Jap.* 49.

Deep brown, edge of the shields grooved and slightly radiately striated; head brown rayed, cheeks pale spotted; sternum pale yellowish.

a. Stuffed. China. Presented by J. R. Reeves, Esq.

Fam. III. Chelydes, (Chelididæ).

Head much depressed, broad, covered with a soft skin or hard shields: nostrils elongate, tubular: eyes superior: jaws horny. Neck long, broad, contractile, bent under the side of the shell in repose. Feet webbed. Toes 5-5, deeply webbed, with a lobe between each claw. Claws 5-5, 5-4 or 4-4, elongate, acute. Shell depressed, covered with horny shields; caudal pair always separate. Sternum attached to the thorax by a short bony suture, covered with the outer ends of the pectoral and abdominal plates, and with an additional intergular plate in front. The axillary and inguinal plates very small or none. Pelvis large, united to the vertebra and the hinder lobe of the sternum, leaving a scar. Living in ponds and rivers, in warm climates. Eating flesh; feeding only in the water: swimming with their whole shell under water.

Synopsis of the Genera.

A. *Head moderate, flat. Jaws naked. Intergular plate marginal.*

a. *Toes 5-5. Head shielded.*

1. Sternotherus. Front lobe of the sternum mobile, with a long internal process on each side.
2. Pelomedusa. Front lobe of the sternum fixed.

b. *Toes 5-4. Head with a thin skin or subshielded.*

3. Hydraspis. Shell depressed, thin, light, sides revolute: front edge of thorax and sternum dilated.
4. Chelymys. Shell convex, very solid, strengthened with two compressed diverging bony folds in front, sides revolute.
5. Phrynops. Shell rather depressed, light, sides expanded; hinder lobe of the sternum narrowed.

B. *Head large or very large.*

c. *Toes 4-4. Head flat, depressed. Jaws naked. Chin not bearded.*

6. Chelodina. Intergular plate intermarginal: nuchal plate small.
7. Hydromedusa. Intergular plate marginal: nuchal plate intermarginal large, like the vertebral.

d. *Toes 5-4. Head flat, much depressed. Jaws covered with fleshy lips: chin bearded: intergular plate marginal.*

8. Chelys.

d. *Toes 5-4. Head convex, rounded, covered with hard shields: eyes lateral. Jaws naked.*

9. Peltocephalus. Head subquadrangular: upper jaw hooked. Feet slightly webbed

Podocnemis. Head sub-depressed, with a groove in front: upper jaw slightly arched. Feet broadly webbed.

1. Sternotherus. Pelusios, *Fitz.*

Shell roundish, rather convex, side plates narrow, front one very short and square. Nuchal plate none. Sternum broad, front lobe rounded before, moveable, and furnished on each side of its hinder edge with an internal bony process; hinder lobe bifid, with an internal star. Intergular plate marginal between the gular. Jaws naked. Toes 5-5.

The Black Sternotherus. Sternotherus niger, *Dum. et Bib. E. Gen.* ii. 397, *t.* 20, *f.* 1.

Shell oval, short, swollen, narrower in front, deep, black: muzzle elongate; upper jaw hooked, covering the lower; head with 2 large parietal, a long fronto-nasal, and moderate frontal shields.

Inhab. Madagascar? Mus. Paris.

The Blackish Sternotherus. Sternotherus subniger, *Gray, Syn.* 38. Testudo subniger, *Lacep. Q. O.* i. 175, *t.* 13. *Latr. R.* i. 89, *f.* 1. *Daud. Rept.* ii. 197. *Schweig.* i. 315, *n.* 40. Terrapene nigricans, *Merrem, Tent.* 28. *Dum. et Bib. E. Gen.* ii. 399. Emys Couro, var. *Schlegel, F. Jap.* 64.

Vertebral plates square, as long as broad, the fourth broader than long: sternum contracted: muzzle rounded.

a. Animal dry, shell worn. Africa.

The Natal Sternotherus. Sternotherus castaneus, *Gray, Syn. R.* 38. *Dum. et Bib. E. G.* ii. 401. Emys c. *Schweig. Prod.* 324, *n.* 38. E. Couro, var. *Schlegel, F. Jap.* 64. Test. subnigra, *β. Daud. R.* ii. 198. S. Leachianus, *Bell, Z. Journ.* ii. *t.* 14, (young?). S. sinuatus, *A. Smith, Illust. Zool. S. Afric. t.* 1, ♂.

Vertebral plates broad, nearly square, nearly as long as broad, the fourth 6-sided, longer than broad.

a, b. Adult, stuffed, 8½ inches. Port Natal. From Dr. Krauss' collection.

Lord Derby's Sternotherus. Sternotherus Derbianus.

Shell oblong, convex, rounded; vertebral shields narrow, 6-sided, much longer than broad, the last subtriangular: head broad, the parietal and vertical plates united into one; muzzle bluntly rounded; the sternum broad, with the hinder portion scarcely contracted in front, the front much rounded; the central gular plate broad ovate, angular behind.

a. Adult stuffed. W. Africa, Sierra Leone? Gambia. Presented by the Earl of Derby.

2. Pelomedusa, *Wagler.*

Head much depressed, shielded with two narrow frontal shields, separated by a groove, a large vertebral shield, and a large cheek

shield on each side. Chin 2-bearded. Jaws exposed. Neck broad. Feet quite retractile. Toes 5-5, expanded, webbed to the tips, with a large rounded lobe between each claw. Claws 5-5, sharp. Shell depressed, sides narrow, revolute. Nuchal none. Sternum solid, rather narrow, truncated in front, narrower and nicked behind. Intergular shield small, marginal. Africa.

** Pectoral shields small, triangular, short; humeral large; occiput with small shields.* Pentonyx, *Ruppell.*

The Gehafiæ. Pelomedusa Gehafiæ. Pentonyx Gehafiæ, *Ruppell, Mus. Frank.* 1831.

Olive: shields radiately and concentrically grooved: beneath pale yellowish white.

a. Stuffed, adult. Abyssinia. From Dr. Ruppell's collection.

*** Pectoral and humeral shields equal, oblong, four-sided, transverse, occiput largely shielded.* Pelomedusa, *Wagler.*

The Reddish Pelomedusa. Pelomedusa subrufa. Testudo s. *Lacep. Q. O.* i. 173, *t.* 12. *Encyc. Méth. t.* 6, *f.* 3. *Latr. R.* i. 120. *Daud. R.* ii. 132. *Schweig. Prod.* 308, 26. *Gray, Syn.* 40. T. scabra, *Retz.* Testudo badia, *Donnd. Zool. Beytr.* iii. 34. *Bechst.* T. galeata, *Schoepf. Test.* 12, *t.* 3, *f.* 1, (young). *Latr. R.* i. 152. *Shaw, Zool.* iii. 57, *t.* 12, *f.* 3. *Daud. R.* ii. 136. *Schweig.* 307, *n.* 25. *Schlegel, F. Jap.* 44. *Wagler, Syst.* 132, *t.* 2, *f.* 36, 44. Emys olivacea, *Schweig. Prod.* 307, 24, (young). Pentonyx capensis, *Dum. et Bib. E. G.* ii. 390, *t.* 19, *f.* 21. T. senegalensis, *Daud.*

Shell brown olive, oval oblong, (back impressed on each side of the vertebral line when full grown); first vertebral plates short, very broad in front.

a. Adult, stuffed, plates worn smooth. Cape of Good Hope. Presented by J. E. Gray, Esq.

b. Young, animal dry, (only two legs). Cape of Good Hope.

c—e. Very young. Cape of Good Hope. Presented by J. S. Bowerbank, Esq.

Adanson's Pelomedusa. Pelomedusa? Adansonii. Emys Adamsonii, *Schweig. Prod.* 308, 27. *Gray, Syn.* 40. *Dum. et Bib. E. Gen.* ii. 394.

Shell oval, fulvous, brown-spotted, back strongly keeled; front vertebral plates much longer than broad.

Inhab. Cape de Verde. Mus. Paris.

3. Hydraspis, *Bell.*

Platemys, Rhinemys, *Wagler.* Platemys part, *Dum. et Bib.* Chelodina part, *Fitz.*

Head moderate, flattened, covered with a thin skin, often di-

vided into subregular plates, especially on the temples. Jaws naked, slender, weak. Chin 2-bearded. Hind legs with a compressed scaly tubercle on the outer side, above the foot. Toes webbed. Claws 5-4, acute. Shell oblong, depressed, back flattish, lateral margin revolute. Nuchal plate distinct, anterior vertebral plate larger than the other, often very broad. Sternum solid, not mobile; lobes broad, the front one rounded. Tropical America.

The Doubly Keeled Hydraspis. Hydraspis planiceps, *Gray, Syn. R.* 40. Testudo planiceps, or platycephala, *Schneid. Berol. Naturf.* iv. *t.* 16. *Schoepf. T.* 115, *t.* 27. *Schweig. Prod.* 303, *n.* 16. *Wagler, Sys.* 135. E. platycephala, *Schlegel, F. Jap.* 45. T. Martinella, *Daud. R.* viii. 344. *Dum. et Bib. E. Gen.* ii. 407. Emys canaliculata, *Spix, Bras, t.* 8, *f.* 1, 2. *Wagler, Syst. t.* 4, *f.* 1, 25. ? E. discolor, *Thunb. MS. Schweig.* ? E. Schoepfii, *Weigmann.*

Shell quadrangular, fulvous, marked on each side of the disk with a large black spot; back with two rounded keels, separated by a broad groove; costal plates not arched; sternum black edged with yellow; head covered with a thin single plate.

Inhab. Brazils. Mus. Bell.

The Rayed Hydraspis. Hydraspis radiolata, *Gray, Syn. R.* 44. Emys radiolata, *Mikan, Delect. t.* —— *Neuwied, Abbild. t.* — *Wagler, Syst.* 165. *Dum. et Bib. E. Gen.* ii. 412. Hydraspis planiceps, jun. *Gray, Syn. R.* 40. E. platycephala var. *Schlegel, F. Jap.* var. 47.

Shell oval-oblong, narrowed and rounded in front, rather obtusely angular behind, keelless, brown, varied with reddish; shields concentrically and radiately striated; head covered with numerous scales; neck tubercular.

Inhab. Brazils. Mus. Bell.

The Grooved Hydraspis. Hydraspis Spixii. Platemys Spixii, *Dum. et Bib. E. Gen.* ii. 409. Emys depressa, *Spix, Bras.* 4, *t.* 3, *f.* 1, 2, (not Neuweid).

Shell oval oblong, convex, middle of the back flattened, with a narrow central groove; costal plates arched; sternum black; head with numerous small plates; chin 2-bearded; neck with conical acute spines; the two outer toes of the fore feet small, with short rudimentary claws; the lower part of the outer side of the front edge of the hind legs with a compressed tubercle, formed of three compressed scales.

a. Shell and animal. From M. Clausen's collection.

The Depressed Hydraspis. Hydraspis depressa, *Gray, Syn.* 41. Emys depressa, *Merrem, Tent.* 22, (not Spix). *Neuwied, Abbild. t.* — *Schinz. Rept.* 43, *t.* 4. Platemys Neuwiedii, *Dum. et Bib. E. Gen.* ii. 425. E. Lyræ, *Reuss.* E. platycephala, var. *Schlegel, F. Jap.* 47.

Shell oval oblong, rounded at each end, not keeled, olive brown, black-rayed, hinder margin yellow; blackish gray, side of the head with three black rays, throat whitish, black-spotted.

a. Young, in spirits. S. America. Presented by Dr. Edw. Ruppell.

The Black Hydraspis. Hydraspis gibba, Emys gibba, *Schweig. Prod.* 299, *n.* 7. *Wagler, Syst.* 135. *Dum. et Bib. E. G.* ii. 416, *t.* 20, *f.* 2. Hyd. cayennensis, *β. Gray, Syn.* 42.

Shell black, ovoid; discal plates slightly striated, the three last vertebral tubercularly keeled behind; costals flat; sternum brown, varied with yellow on the edge; head covered with many small plates.

a. Animal and shell. "Madagascar?" From M. Parzudaski's collection.

Schweiger's Hydraspis. Hydraspis nasuta. Emys nasuta, *Schweig. Prod.* 298, *n.* 4. Platemys Schweigerii, *Dum. et Bib. E. Gen.* ii. 435. E. platycephala, var. *Schlegel, F. Jap.* 46.

Shell much depressed, keeled, waved, fulvous, hinder edge yellow; sternum brown, with the sides and ends yellow; head depressed, thick, covered with numerous small plates.

Inhab. S. America.

Wagler's Hydraspis. Hydraspis Wagleri. Platemys Wagleri, *Dum. et Bib. E. G.* ii. 422.

Shell oval, much elongated, narrowed at each end, keelless, rounded in front and truncated behind, reddish brown; shields smooth; the first vertebral protuberant, 3-sided; sternum yellow; head flat, smooth; temple with small scales.

Inhab. Brazil. Mus. Paris, (1 specimen).

Gaudichaud's Hydraspis. Hydraspis Gaudichaudii. Platemys Gaudichaudii, *Dum. et Bib. E. G.* ii. 427.

Shell oval, oblong, truncated in front, rounded behind, keelless, brown marbled with black, and with yellow spots on the outer edge of each marginal shield; sternum black in the middle, orange on the sides; head large; under part of the neck orange, marbled with brown.

Inhabits Brazils. Mus. Paris. (one very young specimen).

St. Hilaire's Hydraspis. Hydraspis Hilairii. Platemys Hilairii, *Dum. et Bib. E. G.* ii. 429.

Shell rather convex, pale brown, short, oval, narrowed at each end; shields smooth; vertebral broad, each furnished with a keel-like tubercle; sternum yellow, black-spotted; head depressed, sub-squamose, muzzle short, round.

Inhab. Brazils. Mus. Paris.

The Broad Hydraspis. Hydraspis? lata, *Bell*, *MS.* *Gray*, *Syn. R.* 77.

Shell suborbicular, depressed, black; head and neck when fresh, orange-spotted.

Inhab. Brazils? Mus. Zool. Soc.

The Allied Hydraspis. Hydraspis? affinis, *Gray*, *D. C.* 22, *n.* 10.

Shell brown, obscurely black-rayed, margin strongly reflexed over the hinder feet; two last vertebral shields with an elevated compressed conical ridge; neck long, black, with a yellow line on each side, beneath yellowish.

Inhab. Brazils. Mus. Berlin.

4. Phrynops. Phrynops and Rhinemys, *Wagler.*

Head moderate rounded, covered with a thin skin, often divided into small subregular plates, especially on the temples. Jaws naked. Chin 2-bearded. Toes webbed. Claws 5-4, acute. Shell ovate, rather convex, solid, the sides and hinder margin expanded. Nuchal plate distinct; anterior vertebral moderate. Sternum solid, not mobile, the hinder lobe narrowed behind. Tropical America.

Geoffroy's Phrynops. Phrynops Geoffroyana, *Wagler*, *Sys.* 135, *t.* 5, *f.* 48—54. *Icon. t.* 26. Emys Geoffroœana, *Schweig. Prod.* 302, 15. *Dum. et Bib. E. G.* ii. 418. Emys viridis, *Spix*, *Braz.* 3, *t.* 2, *f.* 4, *t.* 3, *f.* 1. *Gray*, *Syn.* 41. Hydraspis rufipes, adult, *Kaup.* E. platycephala, var. *Schlegel*, *F. Jap.* 47.

Shell oval, oblong (of the same width at the two ends), rounded before, obtusely angular and nicked behind; vertebral plates forming a gutter on each side of the tubercular keel; body yellowish, spotted and rayed with brown, beneath yellow; head with small scales; occipital and superciliary shields elongated.

Inhab. S. America, Buenos Ayres. Mus. Paris, two specimens, young and old.

The Red-footed Phrynops. Phrynops rufipes. Emys rufipes, *Spix*, *Braz.* 7, *t.* 6, *f.* 1, 2. *Wagler*, *Syst.* 134, *t.* 3, *f.* 43, 45. *Gray*, *Syn.* 41. *Dum. et Bib. E. G.* ii. 435. Emys platycephala, var. *Schlegel*, *F. Jap.* 46.

Shell brown, oval, truncated in front, angular behind; back keeled; sternum narrower behind; neck and members reddish, with an oblong red spot above the ear; head smooth, with small scales on the temples.

Inhab. Brazils. Mus. Munich.

Bell's Phrynops. Phrynops Bellii.

Shell (young) very depressed, very obscurely keeled, brown; middle of the hinder edge of vertebral shield rather elevated, mar-

gin very much expanded, deeply serrated behind; beneath, yellow brown-rayed and varied; sternum narrow, rather broader in front, attenuated and deeply acutely lobed behind; head brown, moderate, with two subtrigonal hard occipital shields, and small shields on the temples; chin 2-bearded; neck warty, yellow beneath, with a yellow streak on each side, from the angle of the mouth and under the ear; claws elongate, acute, compressed.

Inhab. ——? Mus. Bell. a young specimen.

Milius's Phrynops. Phrynops? Miliusii. Platemys Miliusii, *Dum. et Bib. E. G.* ii. 431. Emys stenops, *Spix*, *Braz.* 12, *t.* 9, *f.* 3, 4? very young. E. platycephala, var. *Schlegel*, *F. Jap.* 47.

Shell oval, narrow and rounded in front, obtusely angular behind, keelless, black-brown, shields smooth; sternum brown, yellowish washed on the edge and middle line; abdominal plates large; head broad, thick, smooth; temple with small scales.

Inhab. Cayenne. Mus. Paris.

5. Chelymys.

Head and temple covered with a smooth skin. Jaws naked, horny, strong. Chin not bearded. Shell convex, solid, expanded behind, side edges narrow, rather revolute. Nuchal shield distinct. Front cavity much contracted by two rather diverging septa, only leaving a space half the width of the outer opening. Vertebral column sharply keeled within. Sternum solid, narrow, with broad and shelving side wings, and a broad rounded notch behind. Claws 5-4, acute. Australia.

The Victoria Chelymys. Chelymys Macquaria. Emys Macquaria, *Cuv. R. A.* ii. 11. *Gray*, *Syn.* 40. *Grey*, *Trav. W. Aust.* ii. 448. *Dum. et Bib. E. G.* ii. 438. Hydraspis Victoriæ, *Gray*, *Z. M.* 55. H. australis, *Gray*, *Grey*, *Trav. W. Austr.* ii. 445, *t.* 6.

Shell ovate, convex, blackish brown, marbled with grey and rather rugose above, beneath convex, yellow olive, with slight, impressed, narrow, netted grooves; vertebral plates nearly square, the fourth 6-sided, elongate; the marginal plates rather narrow in front, broader and slightly bent upon the sides, dilated, rather produced and leaving two or three notches over the tail behind; sternum yellow, rather convex.

a. Shell only, adult, back with a very narrow, slightly sunk, interrupted vertebral line; shield partly rugose; vertebral plates rather longer than broad. Victoria River, N.W. coast of Australia. Presented by Capt. William Chambers, R.N.

Emys Macquaria, *Dum. et Bib.* H. Victoriæ, *Gray.*

b. Animal and shell, younger: shields smooth, vertebral rather broader than long. Australia. Presented by J. Gould, Esq.

H. australis, *Gray*, *Grey*, *Journ. W. Aust.* ii. 445, *t.* 6.

6. Chelodina, *Gray*. Chelodina part, *Dum et Bib.*

Head elongate. Neck very long, covered with a thin skin. Jaws exposed. Claws 4-4. Shell depressed, broad, shields thin, smooth. Sternum very broad, rounded in front, nicked behind. Intergular plate large, long, 6-sided, placed in the angle between the gular and humeral plates. Nuchal plate distinct. Australia.

The Yellow Chelodine. Chelodina longicollis, *Gray, Syn. R.* 39, *t.* 6, *f.* 2. *Griffith, An. K. t.— Grey, Trav. Austr.* ii. 445. Testudo longicollis, *Shaw, N. Holl.* 19, *t.* 7, *and Gen. Zool.* iii. 62, *t.* 6. *Lacep. Ann. Mus.* iv. 189. *Schweig. Prodr.* 309, *n.* 28. *Schlegel, F. Jap.* 43. *Bell, Zool. Journ.* iii. 512. Chel. Novæ Hollandiæ, *Dum. et Bib. E. G.* ii. 445. Emys porphyrea, *Daud, Rep.* ii. 142.

Shell oblong, depressed, brown; first vertebral shield elongate; the second and eleventh marginal shields with their front edge opposite the suture of the costal shields; sternum flattish, deeply nicked behind, yellow, shields black-edged.

a. Animal dry, depressed, oblong. Australia. Presented by Sir Joseph Banks. The specn. described by Shaw, Schweiger &c.

b. Stuffed, more ovate and convex, 7 inches by 6. Australia. Presented by J. Gould, Esq.

The Oblong Chelodine. Chelodina oblonga, *Gray in Grey, Tr. Aust.* ii. 446, *t.* 7.

Shell oblong, rather contracted in front, with a broad impressed vertebral groove, olive brown, with irregular anastomosing lines, beneath yellowish; marginal plates longer than broad, second larger than the first or third, and rather angularly produced in the middle of the inner edge, which is opposite the suture of the costal plates; sternum high, flat, strongly and sharply keeled on the sides; neck warty, very thick.

a. Adult, stuffed. W. Australia. Presented by J. Gould, Esq. The specimen figured.

b. Adult, stuffed. Port Essington. Presented by Capt. W. Chambers, R.N.

c. Very young, in spirits; the body scarcely larger than the head, shell not solidified. W. coast of Australia. Presented by John Richardson, M.D.

7. Hydromedusa, *Wagler*. Chelodina part, *Dum. et Bib.*

Head elongate, depressed, covered with a soft dotted skin. Jaws narrow, exposed. Lips rather dilated and fleshy at the angle of the mouth. Chin not bearded. Neck warty. Claws 4-4; outer toes on each foot small, clawless. Tail elongate. Shell oblong, depressed, expanded in front, slightly revolute on the sides. Nuchal plate large behind the marginal plate like a sixth vertebral. Intergular plate large, long, marginal. Tropical America.

Prince Maximilian's Hydromedusa. Hydromedusa Maximiliana, *Wagler, Sys.* 135, *t.* 3, *f.* 35, 42. *Peters, Muller, Arch. Anat. et Phys.* 1839, *t.* 14, skeleton. Emys M. *Mikans, Delect. t. Dum. et Bib. E. Gen.* ii. 449. *Gray, Syn.* 42.

Shell oval, entire, rounded in front, rather angular behind, pale brown, black spotted; nuchal plate as large as the first vertebral, the fourth costal and two last dorsal shields, protuberant; forehead flat; throat yellow, brown marbled.

a, *b*. Half grown and young, in spirits. Brazils. From M. P. Clausen's collections.

The Yellow-lipped Hydromedusa. Hydromedusa flavilabris. Chelodina flavilabris, *Dum. et Bib. E. G.* ii. 446.

Shell elongate, oval, entire, rounded in front, rather angular behind; nuchal plate rather narrower than the first vertebral; forehead convex; jaws bright yellow.

Inhab. Brazils. Mus. Paris, (1 specimen).

8. Chelys, *Daud.* Matamata, *Merrem.*

Head flat, broad, fringed with warty appendages. Eyes small. Nose elongated into a tubular proboscis. Mouth roundish. Jaws covered with soft lips, lower jaw elevated behind. Tongue-bone very complicated, (*Cuv. Oss. Foss.* v *t.* 1.). Neck thick, flat, long, bearded at each side. Legs scaly. Tail short, warty. Shell ovate, convex, broader before, acutely 3-keeled, flattened in the middle of the back. Shields thin, angularly gibbous. Sternum narrow, broader and rounded in front, narrower and bifid behind. Intergular plate marginal. South America.

The Matamata. Chelys Matamata, *Gray, Syn.* 431. *Dum. et Bib. E. G.* ii. 455. Testudo Raparara, *Ferm. H. N. A. Equin.* 51. Test. fimbriata, *Schn. Schildk*, 349. *Gmel. S. N.* i. 1043. *Schoepf. Test.* 97, *t.* 21. *Shaw, Zool.* iii. 70, *t.* 18. *Schweig. Prod.* 294. *Spix, Braz. t.* 11. *Wagler*, 134, *t.* 3, *f.* 4, 24. *Merrem, T.* 21. T. Matamata, *Brug. Jour. H. N.* 1792, 253, *t.* 13. *Latr. R.* i. 9, *t.* 4, *f.* 1. *Schlegel, F. Jap.* 41. *Daud. R.* ii. 86, *t.* 20, *f.* 1.

Shell oblong, shields elevated, acute, forming three keels.

a, *b*. Adult, stuffed. S. America.

9. Peltocephalus, *Dum. et Bib.*

Head large, subquadrangular, pyramidical, covered with six large, thick, rather imbricate plates. Jaws naked, very strong, hooked, toothless. Eyes lateral. Feet slightly webbed, with two large scales at the claws. Claws straight, strong. Tail clawed. Shell ovate, convex. Nuchal plate none. Sternum solid.

The Tracaxa. Peltocephalus Tracaxa, *Dum. et Bib. E. G.* ii. 378, *t.* 18, *f.* 2. Emys T. *Spix, Braz.* 6, *t.* 5. *Wagler, Syst.* 135. Emys macrocephala, *Spix. Braz.* 5, *t.* 4, (young).

Shell ovate, subsemicylindrical, smooth, entire, blackish brown.

a. Adult, stuffed. S. America.

10. Podocnemis, *Wagler.*

Head rather depressed, covered with flat shields, with a deep groove on the forehead. Chin 2-bearded. Jaws naked, slightly arched, toothless. Legs broadly webbed, the hinder with two broad thin scales at each claw. Tail short, not clawed. Shell rather solid. Nuchal plate none. Sternum broad, not mobile.

The Broad Podocnemis. Podocnemis expansa, *Wagler, Syst.* 135, *t.* 4, *f.* 1—31. *Dum. et Bib. E. Gen.* ii. 283, *t.* 19, *f.* 1. Emys Amazonica, *Spix, Braz.* i. *t.* 1, 2, *f.* 1, 2. *Schweig. Prod.* 299, *n.* 8. *Schlegel, F. Jap.* 48. *Gray, Syn. R.* 41. Test. Arrace, *Humb. Pers. Nar.* iv. 482 ?

Shell oval, entire, keelless, very depressed when adult, tectiform when young, much and horizontally expanded over the hind legs.

Inhab. Cayenne. Mus. Paris.

The Cayenne Podocnemis. Podocnemis Dumeriliana, *Wagler, Syst.* 135. *Dum. et Bib. E. G.* ii. 387. Emys Dumeriliana, *Schweig. Prod.* 300, *n.* 9. *Schlegel, F. Jap.* 48. *Gray, Syn.* 42. E. Cayennensis, *Schweig. Prod.* 298, *n.* 6, (young). E. erythrocephala, *Spix, Bras. t.* 7, (young).

Shell oval, convex, swollen, nicked in front, brown, varied with black; the second and third vertebral plate keeled; sternum yellowish, under side of marginal plates with a black spot.

Inhab. Brazils. Mus. Paris.

There is in the British Museum a fossil species of this family from Sheppey, peculiar for having a flat sternum, round at each end, and having the sterno-costal suture covered with several additional plates (like *Platysternon* amongst the *Emydidæ*). I have long since named it after my excellent friend and former superior, and now colleague, *Megasternon Kœnigii*.

Fam. IV. Soft Turtles, (Trionycidæ).

Head flattened, ovate: eyes small, superior: jaws horny, covered with dependant fleshy lips: chin not bearded: nostrils elongated into a thin cylindrical trunk. Neck long, contractile. Feet short, strong. Toes 5-5, short, expanded, strongly webbed, two outer clawless: claws 3-3. Tail short, conical, simple. Shell covered with a hard cartilaginous skin, usually expanded and flexible on the edge, the ribs only united together and to the vertebræ above, separate below. Sternum formed of a ring of bones, covered with a continuous skin, and in the adults furnished with rough callosities on the prominent part. Pelvis only attached to the vertebræ. Living in rivers and lakes in warm climates, eating flesh, and rarely vegetables. Eggs spherical.

The ribs become united together for a greater length, and the sternal callosities appear and increase in size as the animal increases in age, hence they do not afford specific, much less generic characters.

Synopsis of the Genera.

A. *Sternum broad, with valves over the feet. The margin of the shield supported by bones.*

1. Emyda. Head moderate, sternal callosities 5.

B. *Sternum narrow at each end. The margin of the shield expanded, flexible, thin. Sternal callosities* 4.

2. Tyrse. Head moderate, ovate, narrow in front: lips thin. Ribs 8 pair, forming a disk with the vertebræ when young.

3. Dogania. Head very large, dilated behind, narrow in front: lips thin. Ribs 8 pair, not united in a solid disk until late in life.

4. Chitra. Head dilated behind, broad and short in front: lips very large, swollen. Ribs 8 pair.

5. Trionyx. Head moderate, ovate, narrow in front. Ribs 7 pair.

1. Emyda, *Gray.* Cryptopus, *Dum. et Bib.*

Head moderate, ovate, narrow in front. Lips thin. Margin of the shell supported with a series of bones. Sternum broad, rounded before and behind, with a moveable valve over each foot. Sternal callosities (of adult) 5.

The Bungoma. Emyda punctata, *Gray, Syn. Rept.* 50. *Ill. Ind. Zool.* ii. *t.* 62, young. *Bell, Testud. t.* Testudo punctata, *Lacep. t.* 7. *f.* 1. Test. granosa, *Schoepf. Test.* 127, *t.* 30, A, B.

Schweig. Prod. 288. *Wagler, Syst.* 134, *t.* 2, *f.* 2, 33. *Gray, Ind. Zool.* ii. *t.* 64. *Schlegel, F. Jap.* 35, *t.* 5, *f.* 4. *Dum. et Bib. E. G.* ii. 504. Testudo scabra, *Latr. Rept.* i. 194. Test. Dura, *B. Hamilton, Icon. ined. n.* Test. granulata, *Shaw, Zool.* iii. 68, *t.* 14, *f.* 1. *Daud. R.* ii. 81, *t.* 19, *f.* 2. Trionyx Coromandelicus, *Geoff. Ann. Mus.* xiv. 16, *t.* 5. *f.* 1.

Shell oval, convex, granular, green (young with eyed spots); head with two orange spots on the occiput, (young with a yellow streak for each eye, and the nape yellow-spotted).

a—c. Animal and shell, stuffed, adult. India. From M. Piquot's collection.
d, e. Shell only. India. From M. Piquot's collection.
f, g. In spirits, young. India. From M. Piquot's collection.
h. Stuffed, young. From the Museum of the Bengal Society.
i. Upper shield only. Presented by Gen. Th. Hardwicke.

The African Bungoma. Emyda Senegalensis. Cryptopus S. *Dum. et Bib. E. G.* ii. 304.

Back, head and neck (of young) grey, with minute white spots; sternum blackish, edged with dirty white.

Inhab. "Senegal." Mus. Paris.

2. Tyrse.

Head moderate, ovate. Muzzle conical. Lips moderate. Margin of the shell flexible. Ribs 8-8. Sternum narrow at each end. Sternal callosities 4. Episternal bone diverging, forming a V.

The Kaarey. Tyrse Gangetica. Trionyx gangeticus, *Cuv. R. A.* ii. 16. *Guérin, Icon. t.* 1, *f.* 6, (young). *Schlegel, F. Japon.* 35. *Cuv. Oss. Fos.* iii. 222, (adult). *Wagler, Syst. t.* 2, *f.* 12—18. T. stellatus, var. Japon. *Schlegel, F. Jap. t.* 5, *f.* 7? T. Hurum, *Gray, Illust. Ind. Zool. t.* 1. *Syn. Rept. t.* 10. *B. Hamilton, Icon. ined. n.* 13. Gymnopus Duvaucelii, *Dum. et Bib. E. G.* ii. 487. Testudo Chin, *B. Hamilton, Icon. ined. n.* copied *Gray, Syn. R.* 47, *t.* 10. Test. ocellatus, *B. Hamilton, Icon. ined. n.* 14. *Gray, Illust. Ind. Zool. t.* 7. *Dum. et Bib. E. G.* ii. 189, young.

Olive, vermiculated with dark brown (when young with four or five large eyed spots); head olive, white-dotted, with a yellow spot (white in spirits) behind each eye, at the angle of the mouth and on each side of the chin, and one on each side of the neck below the cheek.

a—d. In spirits, young, 4 inches, back with 4 black spots. India.
e. In spirits, young, 4 inches, back with 4 large and 2 small posterior black spots. India.

The Boulousse. Tyrse Javanica. Trionyx Javanicus, *Geoff. Ann. Mus.* xiv. 15, *t.* 3. *Schweig.* 287. *Gray, Syn. R.* 48. *Illust. Ind. Zool. t.* *t.* *f.* 1, 2. *Dum. et Bib. E. G.* ii. 493.

Wagler, Syst. t. 2, *f.* 1—11. Test. Gataghol, *B. Hamilton, Icon. ined. n.* 15? cop. *Gray.* Test. rostrata, *Thunb. N. Act. Suec.* viii. 179, *t.* 7, *f.* 2, 3. *Schoepf.* 93, *t.* 20. *Daud. Rept.* ii. 77, (young). Test. cartilaginea, *Bodd. Berl. Naturf.* ii. 263. Test. Boddaertii, *Schneid. Scheld. t.* 1, *f.* 1, 2. T. membranacea, *Blumenb, Schned. t.* 2. Tri. stellatus, *Geoff. Ann. Mus.* xiv. 13.

The front and hinder edge of the dorsal disk tubercular; olive green, crown of the head with one central and two radiating black lines.

a. In spirits, half grown? back black-eyed, 5½ inches. India.
b, c. In spirits, young, not eyed. India.
d. Stuffed, half grown, back with irregular rugose ridges. India, Deccan. Presented by Colonel Sykes, F.R.S.
e, f. In spirits, ? very young, not good state. China. Presented by W. Baird, M.D.

The Eyed Boulousse. Tyrse perocellata. Trionyx perocellatus, *Cantor.* T. tuberculatus, *Cantor.* T. stellatus, var. Javan. *Schlegel, F. Japon. t.* 5, *f*, 6?? *t.* 7, *f.* 1, 2.

Back with six obscure spots; head and neck olive; lip and chin with small white spots.

a, b. In spirits, half grown. Canton, China. Presented by the Hon. East India Company, from Dr. Cantor's collection.
c. In spirits, younger, sternum black-spotted. Canton, China. Presented by the Hon. East India Company, from Dr. Cantor's collection.

The Tyrse. Tyrse Nilotica. Trionyx Niloticus, *Gray, Syn.* 46. *Schlegel, F. Jap.* 32. Testudo triunguis, *Forsk.* 9. Trionyx Ægyptiacus, *Geoff. Egypt.* i. 116, *t.* 1. *Guérin, Icon. t.* 1, *f.* 7. *Dum. et Bib. E. G.* ii. 484. T. labiatus, *Bell, Test. t.* from life.

Shell rather convex, vertebral line often depressed; back green spotted with white or yellowish.

a. Adult, *b.* Young, stuffed. Egypt. Presented by Turnbull Christie, M.D.
c. In spirits, half grown, brown, with small white specks on shields and body, with some series of rather larger specks. W. Africa.

The Eyed Tyrse. Tyrse Argus, *Gray. Lear, Icon. ined. t.*

Olive-black, with numerous pale-edged, narrow, black rings; head and feet marbled with black, with a black-edged yellow streak from the tip of the nose to the ear, inclosing the eye; lips yellow, black-edged; nuchal bone, transverse, separate; sternal callosities 4, hinder ones rather distant.

a. Stuffed. West Africa, Sierra Leone? Presented by the Earl of Derby.

The Rafeht. Tyrse Rafeht. Testudo Rafeht, *Oliv. Voy. Pers.* iii. 453, *t.* 41. *Shaw, Misc. t.* 907. T. Euphraticus, *Daud. Rept.* ii. 305. *Geoff. Ann. Mus.* xiv. 17. *Gray, Syn.* 48. *Dum. et Bib. E. G.* ii. 498.

Dull green; tail rather elongate.

Inhab. Tigris and Euphrates. Mus. Zool. Soc.

3. Dogania.

Head large, broad behind. Muzzle elongate, conical. Lips moderate? Dorsal shield flexible on the edge. Ribs 8-8, not united into a solid disk until late in life. Sternum narrow at each end; callosities 2, small? Episternal lines forming a V, but not contiguous at their base. Tail elongate?

The Dogania. Dogania subplana. Trionyx subplanus, *Geoff. Ann. Mus.* xiv. 11, *t.* 5, *f.* 2. *Schweig. Prod.* 289. *Gray, Syn.* 48. *Illust. Ind. Zool. t.* *Schlegel, F. Jap.* 34. Gymnopus s. *Dum. et Bib. E. G.* ii. 497.

Shell flattened; disk varied with yellow, with brown vermiculations; head yellow-varied; tail elongated.

a. Dry. India, Bengal? Presented by Gen. Th. Hardwicke.

4. Chitra.

Head very depressed, large, dilated behind. Muzzle very short broad. Lips very thick. Shield flexible on the edge. Ribs 8-8. Vertebral bones distinct, narrow. Sternum narrow at each end. Sternal callosities 4. Episternal lines elongate, far apart, nearly parallel.

The Sewteree. Chitra Indica. Trionyx Indicus, *Gray, Syn. Rept.* 47. T. Ægyptiacus, var. Indicus, *Gray, Illust. Ind. Zool.* i. *t.* 80. Testudo Chitra, *B. Hamilton, Icon. ined.* Gymnopus lineatus, *Dum. et Bib. E. G.* ii. 491.

Shield much depressed, with a longitudinal central depression.

a. Adult, stuffed. Philippine Islands. From Mr. Cuming's collection.

b. In spirits, very young. Olive, front of shield covered with close round subconic warts; head olive, minutely black-dotted; throat olive, minutely white-dotted. India.

5. Trionyx.

Head rather large, ovate, dilated behind. Muzzle rather elongate, conical. Lips thick. Shield flexible on the edge. Ribs 7-7. Sternum narrow at each end. Sternal callosities 4, nearly confluent. N. America.

The Fierce Trionyx. Trionyx ferox, *Merrem, Tent.* 20. *Gray, Syn.* 43. *Schlegel, F. Jap. t.* 5, *f.* 5, head. Testudo f. *Penn.*

Phil. Trans. lxi. 266, *t.* 10, *f.* 5. *Schneid. S.* 330. *Schoepf. t.* 19. *Shaw*, *Zool.* iii. 64, *t.* 17, *f.* 1. T. Bartramii, *Daud. R.* ii. 74. *LeConte.* Chelys B. *Geoff. Ann. Mus.* xiv. 18. La Molle, *Lacep. Q. O.* i. 137. *t.* 7. Tri. Georgicus, *Geoff. Ann. Mus.* xiv. 7. T. spiniferus, *Lesueur*, *Mem. Mus.* xv. 258, *t.* 15. *Dum. et Bib. E. G.* ii. 477, *t.* 22, *f.* 1. T. carinatus, *Geoff. Ann. Mus.* xiv. 14, *t.* 4. *Wagler*, *Syst. t.* 2, *f.* 34, 35. *Merrem*, *T.* 21, (young). T. Brongniartii, *Schweig. Prod.* i. 288. Fresh-water Turtle, *Garden.* Fierce Turtle, *Shaw.*

Thorax very depressed, with a series of spinous tubercles on the front edge of the back.

a. Adult, stuffed. N. America. Presented by the Royal Society. The specimen described and figured by Pennant, (re-stuffed).

The Unarmed Trionyx. Trionyx muticus, *Lesueur*, *Mem. Mus.* xv. 257, *t.* 7. *Gray*, *Syn. R.* 46. *Dum. et Bib. E. G.* ii. 482.

Thorax much depressed, without any spinous tubercles on the front edge.

Inhab. N. America. Mus. Paris.

Fitzinger has divided this family into the genera *Trionyx* (*granosus*), *Aspidonectes* (*Javanicus*), *Platypeltis* (*Brongniartii* and *ferox*), *Pelodiscus* (*Sinensis* and *labiatus*), *Amyda* (*subplanus* and *muticus*), according to the union and separation of the cervical bones and the ribs, and the rugoseness and partial smoothness of the surface of the dorsal plates: but these characters alter with the age of the animals, and they separate nearly allied species, and those coming from the same countries.

Fam. V. Turtles, (Cheloniadæ).

Head globose, shielded: nostrils rather tubular: jaws horny, naked. Neck short, subretractile. Feet very long, not retractile, compressed, fin-shaped: toes depressed, expanded at the end and often armed with flat claws; front feet longest. Tail short, thick. Shell low, cordate, with a defined bony margin, covered with horny shields or a leathery skin. Ribs free at the end. Sternum ring-like, cartilaginous in the centre, and only united to the thorax by a cartilaginous suture. Seas of torrid and temperate zones, some eating Algæ, as Ch. Midas, which are used for food, and imported as a luxury; others, Mollusca and radiated animals, as Ch. Caretta, only collected for their oil. The horny shields are used for ornamental purposes.

Synopsis of the Genera.

1. Sphargis. Shell covered with a coriaceous skin. Claws none.
2. Caretta. Shell covered with 13 horny shields, imbricate and produced behind. Sternum strongly keeled on each side in all ages. First and sometimes the second toes clawed.
3. Caouana. Shell covered with 15 or more horny, truncated, not imbricate shields, which are strongly keeled in the young. First and second toes clawed.
4. Chelonia. Shell covered with 13 truncated, not imbricate, horny shields, smooth in all ages. First finger of each fin clawed.

1. Sphargis, *Merrem.* Coriudo, *Fleming.* Dermochelys, *Blainv.* Scytena, *Wagler.*

Shell cordate, depressed, deeply longitudinally grooved, covered with a continuous coriaceous skin. Feet long. Claws replaced by small coriaceous scales.

The Luth. Sphargis coriacea, *Gray, Syn. R.* 51. *Dum. et Bib. E. G.* ii. 560, *t.* 24, *f.* 2. Testudo coriacea, *Linn. S. N.* 350. *Schneid. S.* 312. *Latr. Rept.* i. 58, *t.* 2, *f.* 1. *Shaw, Zool. t.* 18, *f.* 1. *Lacep. Q. O.* i. *t.* 3. Coriudo c. *Harlan, A. H.* 85. T. Lyra, *Donnd.* Sphargis Mercurii, *Rond. t.* 5, *f.* 3. S. mercurialis, *Merrem, Tent.* 19. *Tem. F. Japon.* 6, *t.* 1—3. Dermochelys atlantica, *Lesueur, Cuv. R. A.* ii. 14. Testudo tuberculata, *Penn. Phil. Trans.* lxi. (young). *Schoepf. t.* 29. *Gravenh. Delic. t.* Spinose Tortoise, and tuberculated Tortoise, *Penn.* Coriaceous Turtle, *Shaw.*

Thorax ovate, cordate, sharply 3-keeled.

a. Stuffed, adult. England; coast of Dorsetshire.
b. Stuffed, adult, (not good state). West Indies; Nevis. Presented by W. Cottle, Esq.
c. In spirits, young. Thorax covered with a rather cracked skin, fore feet nearly as long as the shell.

Test. tuberculata, *Gravenh. Delic. t.*— *Phil. Trans.* lxi. *f.* 4, 5. *Schoepf. t.* 29. Dermatochelys porcata, *Wagler, Syst.* 133, *t.* 1, *f.* 1, 23.

2. Caouana, *Gray.* Thalassochelys, *Fitz.*

Thorax ovate, cordate, covered with 15 thin, truncated, not imbricated shields, which are keeled in the young. Head large. Jaws slightly curved towards each other at the tip; side of the lower jaws covered with angular plates. Marginal plates 27 (rarely 25). Carnivorous, eating Mollusca and Crustacea.

The additional pair of discal shields occupies the side of the narrow first vertebral shields, the three covering the space occupied by the broad front vertebral shield of *Chelonia*.

The Caouanne or Loggerhead. Caouana Caretta. Testudo Caretta, *Linn. S. N.* 351. *Walb. Chelon.* 4, 95. *Schoepf. t.* 16, *t.* 16 B. *Shaw, Zool.* ii. *t.* 23—25. *Schoepf. t.* 17, *f.* 3. T. cephalo, *Schn. Schildk.* 303. *Tem. F. Japon.* 25, *t.* 4, *f.* 1, 2, *t.* 6, *f.* 3. T. Caouana, *Bechst. in Lacep.* i. 110. *Daud. Rept.* ii. 54, *t.* 16, *f.* 2. *Schweig. Prod.* 292. *Wagler, Syst.* 133, *t.* 1, *f.* 1, 23. *Gray, Syn. R.* 53. *Dum. et Bib. E. G.* ii. 544. Ch. virgata, *Wagler, Icon. t.* 29, (not Cuv.) Ch. pelagiorum, *Vallenc. Rept. Morea, t.* 10. Testudo corticata, *Rondel.* T. marina Caouanna, *Ray, Qu.* 257. The loggerhead turtle, *Brown, Jam.* 465. *Catesby, Carol.* ii. 40, *t.* 40. La Caouanne, *Labat, Voy. Amer.* i. 184, 311. *Lacep. Q. O.* i. 96. Test. nasicornis, *Lacep. Edw. Birds, t.* 206. Rhinocerus turtle, *Shaw, Zool. t.* 14, very young.

Claws two on each foot; back convex, rounded, toothed behind; vertebral plates 6-sided, keeled, rather longer than wide; caudal plate squarish, longer than broad, hinder marginal plate rather wider than the rest; costal shields of young keeled above.

a. In spirits, half grown. Costal shield keeled above, margin toothed.
b. Back shield, half grown animal. Costal shield smooth.
c. Adult, stuffed. Back covered with *Chelonobia:* hinder marginal plates less acute, caudal plate elongate, subtriangular. Atlantic Ocean.
d. Half grown, stuffed. Hinder marginal plates acute, rather produced, caudal scarcely elongated. Atlantic Ocean.

e. Head, very large. Upper jaw with 2 convex ridges, the hinder ones rounded, convex. C. Ruppellii, *Gray, B. M.* India? Presented by Thomas Bell, Esq.

The Long Caouanne. Caouana elongata.

Shell elongate, rather flattened in the middle, convex on the sides, and slightly dilated and flattened upon the side and contracted on the hinder edges; marginal plates 27, last pair much longer; caudal plates square, large, much longer than broad; vertebral plates elongate, 6-sided, half as long again as broad: claws —— ? Head —— ?

a. Shell only, adult.

The Olive Caouanne. Caouana olivacea. Chelonia olivacea, *Eschscholtz, Zool. Atl. t.* 3. Ch. caouana, var. *Gray, Syn.* 54. Ch. Dussumierii, *Dum. et Bib. E. G.* ii. 557. Ch. subcarinata, *Rupp. MS. Mus. Francf.?*

Claws one on each foot; marginal shields 27; back flat, sides rather concave, side-edges expanded, slightly bent up; vertebral plates narrow, elongate, longer than wide; caudal plate subtriangular, longer than broad, much larger than the other marginal plates: head moderate.

a. In spirits, very young. Without any narrow anterior vertebral plate, (the 2 united?) Philippine Islands.
b. Stuffed, adult. With a narrow anterior vertebral plate.

3. Caretta.

Thorax ovate, cordate, covered with 13 thick, horny plates, which are produced and imbricate on their hinder edge. Muzzle elongate, compressed. Jaws with the edge straight, toothless, and the tip slightly recurved, side of lower jaw with a single elongated shield. Sternum keeled on each side.

The Caret. Caretta imbricata. Chelonia imbricata, *Schw. Prod.* 291. *Gray, Syn.* 25, *t.* 7, *f.* 2. *Dum. et Bib. E. G.* ii. 547, *t.* 13, *f.* 2. *Tem. Fauna Jap.* 13, *t.* 5, *f.* 12, *t.* 6, *f.* 4. Testudo imbricata, *Linn. S. N.* 350. *Schn.* 309. *Shaw, Zool.* iii. *t.* 26, 27. *Daud. R.* ii. 39. *Schoepf. t.* 18, A, B. *t.* 17, *f.* 1, young. T. Caretta, *Knorr, D.* ii. 124, *t.* 50. Chelonia multiscutata, *Kuhl, Beytr.* 78, (monstrosity?) Ch. pseudo Caretta, *Lesson, Voy. Bel.* 302. The scaled tortoise, *Grew, Mus.* 38, *t.* 3, *f.* 4. *Seba*, i. *t.* 80, *f.* 9.

Shell subcordiform, yellow, brown-marbled, back keeled, shelving, strongly toothed behind.

a, b. Stuffed, half grown.
c. Upper shield only, younger.
d. Stuffed, young.
e. Lower shield only.
f. Stuffed, very young, (wants one fin).

4. Chelonia.

Discal shields 13, not imbricate, truncated behind. Muzzle short, rounded. Jaws moderate, upper slightly notched in front, and feebly toothed on the side, lower denticulated, with a single elongate plate upon each side. The front toe of each fin clawed. Feeding on Algæ.

* *The last vertebral bone transverse, broad in front, with the last rib parallel, and arising from the sides of its base, the front edge of the second finger with four scales.*

The Carey. Chelonia virgata, *Schweig. Prod.* 291. *Cuv. R. A.* ii. 41. *Guér. Icon. t.* 1. *f.* 4. *Dum. et Bib. E. G.* ii. 541, (not Wagler). *Sagra, Cuba Rept. t.* 3. Ch. Midas, D. *Gray, Syn.* 52. "Ch. fasciata, *Cuvier*," *Schleg. F. J.* 26. *Schoepf. t.* 16 B. *Bruce, Voy. t.* 42.

Shell short, subtectiform, chesnut, varied with yellow and rayed with brown, sides strongly arched.

a. Upper shield only, young. Vertebral shields broader than long. Atlantic Ocean. Presented by W. Eling, Esq.

b. Stuffed, adult. Vertebral shield longer than broad. S. America. Chelonia maculosa, *Cuv. R. A.* ii. 13. *Dum. et Bib. E. G.* ii. 544. C. lacrymata, *Cuv. R. A.* ii. 13. C. Midas, var. β. *Gray, Syn. R.* 32. C. marmorata, *Dum. et Bib. E. G.* ii. 546. *t.* 23, *f.* 1. *Shaw. Zool.* ii. 13, *t.* 22, (var.)

c. Upper shield only, half grown. Vertebral shields rather longer than broad. S. America?

** *The last vertebral bone narrow, attenuated behind, with the last rib diverging and arising at a distance from its base, the front edge of the second finger with three scales.*

The Green Turtle. Chelonia viridis, *Tem. F. Jap.* 18, *t.* 4, *f.* 4—6, *t.* 6, *f.* 1, 2. Testudo viridis, *Schneid. Schildk.* 309, *t.* 2. Testudo Midas, *Latr. R.* i. 22, *t.* 1, *f.* 1. *Daud.* ii. 10, *t.* 16. *Schoepf. t.* 17, *f.* 2. Chelonia M. *Schweig. Prod.* 291. *Gray, Syn.* 52. *Dum. et Bib. E. G.* ii. 538. Caretta esculenta, *Merrem, Tent.* 18. Test. Japonica, *Thunb.* Test. Thunbergii, *Merrem, Tent.* 19. T. Cepedienne, *Daud. Rept.* ii. 50, *t.* 17, *f.* 1.

Shell subrotundiform, rather elongate, olive green, when dry fulvous, with brown spots; back rounded; vertebral shields hexagonal, nearly as long as broad.

a, b. Stuffed, half grown. Brazils.

c. Stuffed, half grown; wants some plates. From Dr. Mantell's collection.

d. Dry, very young. Margin of the shell and fin white. Ascension Presented by J. R. Reeves, Esq.

e—h. In spirits, very young. Ascension. Presented by Capt. Sir Edward Belcher.

i. In spirits, very young. Sternal plates 6. Ascension. Presented by Capt. Sir Edward Belcher.

j. In spirits, very young. First vertebral plate irregular. Ascension. Presented by Capt. Sir Edw. Belcher.

k, l. In spirits, very young. Vertebral plates irregular, 6 or 7. Ascension. Presented by Capt. Sir Edward Belcher.

m. In spirits, very young. Costal plates 5-5 ; last vertebral narrow. Ascension. Presented by Capt. Sir Edward Belcher.

n, o. In spirits, very young. Plates normal. Ascension Island. From H.M.S. Chanticleer.

p, q. Dry, very young.

r. Skull of young, weighed 66 lbs. From Dr. Mantell's collection.

s. Head, with the shields. Upper jaw with 2 internal ridges, the inner narrow, even, toothed, the outer most prominent in the middle.

t, u. Skulls of adult, weighed 375 lbs. The inner ridge of the upper jaw nearly obliterated. Ascension. Presented by —— Wauds, Esq.

v. Skull of adult. Imperfect, discoloured.

Order IV. EMYDOSAURIANS, (EMYDOSAURI).

Head large, covered with a thin skin: ears linear, closed with 2 valves: gape wide: tongue short: jaws with a single series of conical teeth, inserted in sockets and replaced by teeth formed beneath them, hinder part of the lower jaw produced behind the condyle: nostrils small, anterior: eyes small. Throat with 2 glands. Neck and sides of the body with a wrinkled skin, covered with small tubercular scales. Back with a hard disk, formed of longitudinal series of square, keeled, bony plates, imbedded in the skin; under surface covered with smooth, thin, square plates; back of the neck with 2 groups of bony plates, the first called the nuchal, and the other the cervical plates. Tail compressed, with 2 series of compressed plates above. Vent longitudinal. Legs short; feet webbed; toes 4-5, but only the inner three of each foot clawed. Living in fresh and brackish water in tropical climates. Eating animals which they have killed by drowning.

Synopsis of the Families.

1. CROCODILIDÆ. The lower canines fitting into a notch in the edge of the upper jaw.
2. ALLIGATORIDÆ. The lower canines fitting into a pit in the upper jaw.

Fam. I. CROCODILES, (CROCODILIDÆ).

The lower canines fitting into a notch in the edge of the upper jaw. The hind legs with a fringe of compressed scales behind.

Synopsis of the Genera.

* *Teeth all uniform. Nose of the male very large, inflated.*

1. GAVIALIS. Jaws very long, slender, subcylindrical. Cervical and dorsal disks united together.

** *The 9th upper and 11th lower teeth longer, like canines. Nose of both sexes simple.*

2. MECISTOPS. Jaws oblong, slender, depressed. Cervical and dorsal disks united. Hind feet webbed.
3. CROCODILUS. Jaws oblong, depressed. Nuchal, cervical and dorsal disks separated from each other by small scales.

1. Gavialis, *Merrem.* Gaviala, *Flem.*
Ramphostoma, *Wagl.*

Jaws very long, subcylindrical, slender, rather dilated and convex at the end. Teeth canines 2, quite anterior, small, lower canines shutting into a nick in the edge of the upper jaw. Feet fringed; toes webbed to the tip. The cervical plates united to, and forming a disk with, the dorsal ones. Males with a large swelling in front of the nostrils. Asia.

The Garial or Nakoo. Gavialis Gangeticus, *Gray, Syn.* 56. *Geoff. Mem. Mus.* xii. *Dum. et Bib. E. G.* iii. 134, *t.* 26, *f.* 2. Lacerta Gan. *Gmel, S. N.* i. 1057. *Shaw, Zool.* iii. *t.* 197, *t.* 60. Crocodilus longirostris, *Schild. Am.* 160. *Daud. Rept.* ii. 89. *Cuv. Ann. Mus.* x. *t.* 1, 2. C. acutirostris, *Daud. R.* ii. 293. C. tenuirostris, *Cuv. Ann. Mus.* x. *t.* 1. *Tiedem. Amph. t.* 15. *Wagler, Sys. t.* 7, *f.* 111. *Merrem, Tent.* 38. Le Gavial, *Lacep, Q. O.* i. 235, *t.* 15. *Faugas, Mont. S. P.* 235, *t.* 8, 46, 47. The narrow-beaked Crocodile, *Edw. Phil. Trans.* xlix. 639, *t.* 19.

Olive, black-spotted.

a. In spirits, young. India. From Dr. Mantell's collection.
b. Stuffed, young, length 24 inches. India.
c. Stuffed, young. Length 27 inches. India.
d. Animal, dry. Length 31 inches. Presented by S. P. Pratt, Esq.
e. Stuffed. Length 33 inches. Nepal.
f. Stuffed. Length 52 inches. India.
g. Skull of adult. Length 29 inches. India. Presented by Capt. Oriel.
h. Skull of half-grown animal. Length 18 inches. India. Presented by J. E. Gray, Esq.
i. Head of adult. India. Mus. Sloane.

2. Mecistops. Gavialis, *Muller.*

Jaws oblong, slender, depressed, flat, without ridges. Teeth unequal, lower canines fitting into a notch in the side of the upper jaw. Feet fringed; toes webbed to the tip. The cervical plates in 3 or 4 cross series, united to the dorsal shield. Males without any swelling in front of the nostrils.

Bennett's False Garial. Mecistops Bennettii. Crocodilus leptorhynchus, *Bennett, Proc. Zool. Soc.* 1835, 129. C. cataphractus var. *Bennett, P. Z. S.* 1834, 110.

Muzzle elongate, very slender, rather tapering, with a small tubercle on each side over the second canines, which are rather in front of the middle; nuchal shields 2, far apart, small, with some scattered ones; cervical shields 4, in two bands; dorsal shields equal, square, bluntly keeled, the two first small.

a. Adult, stuffed. W. Africa, Gambia. Mr. Rendal's collection.

The False Garial. Mecistops cataphractus. Crocodilus cataphractus, *Cuv. Oss. Foss.* v. *t.* 5, *f.* 1, 2. *Gray, S.* 59. *Dum. et Bib. E. G.* iii. 126.

Nuchal shields 6, in two rows, two front far apart, four hinder in a line; cervical shields 10, in pairs, two front large, three hinder pairs smaller.

Inhab. W. Africa, in the River Galbar, near Sierra Leone.

Probably only a var. of the preceding.

Journey's False Garial. Mecistops Journei. Crocodilus intermedius, *Graves, Ann. Sci. Phys.* ii. 248. *Gray, Syn.* 59. C. Journei, *Bory, Dict. C. N. H.* v. 111. *Dum. et Bib. E. G.* iii. 129. C. Gavialis Schlegelii, *Muller, Natur-Geschic. Ost. Ind. t.* 1, 2, *t.* 3, *f.* 1—5.

Jaws elongate, subcylindrical, without any ridges, flat in front; nuchal plates small, 3 pair, far apart; cervical plates 3 pair; dorsal shield furrowed, squarish, with 2 series of lateral ones.

a. Very young, in spirits. New Guinea. From the Leyden collection.

3. Crocodilus.

Jaws oblong, depressed, tapering, rather dilated at the end. Teeth unequal, lower canines fitting into a notch in the side of the upper jaw. Feet fringed. Toes webbed to the tip. Nuchal and cervical plates forming a disk separated from the dorsal one by small granular scales. The head of the newly-hatched specimens is short, but it gradually elongates, and after a short time attains the form proper to the species, and through the bones becoming more solid by increasing age, they only slightly alter the relative proportions of the different parts; so that the form of the head, taken with the shielding of the back, affords good characters for the determination of the species.

* *Dorsal shields* 8-*rowed, oblong, longer than broad, subequal, in regular equal series. The small plates on the side in two longitudinal parallel lines. Nuchal shields small or none. Muzzle flat, narrow, with* 2 *long parallel ridges in front.* Asia. Oopholis.

The Indian Crocodile. Crocodilus porosus, *Schn. Amph.* 159. C. biporcatus, *Cuv. Ann. Mus.* x. *Oss. Foss.* v. 65, *t.* 2, *f.* 8, (not *t.* 1, *f.* 4—13, 18). *Tiedem. Amph.* 72, *t.* 9. *Guérin, Icon. t.* 2, *f.* 1. *Wagler, Amph. Syst.* 140, *t.* 8, *f.* 2. *Gray, Syn.* 58. *Muller, Ost. Ind. Rept. t.* 3, *f.* 6, adult. C. biporcatus raninus, *Muller, O. Ind. Rept. t.* 3, *f.* 8, junior. C. Oopholis, *Schn. Amph.* Champse fissipes, *Wagler, Amph. t.* 17.

Head elongate, narrow, (in the half grown and adult specimens twice as long as the width of the hinder part of the skull; upper

jaw with a long, continued ridge from the front of each eye; nuchal plates small or wanting; forehead square, with nearly parallel sides, half as wide again as the muzzle at the anterior notch; muzzle at the 9th tooth nearly half as wide as the space between the nose and eyes; scales of the back oblong, longitudinal, equal, in 8 rows.

a. Stuffed, one-third grown. Length 39 inches. India.
b. Half grown. Length 34 inches. India.
c, *d*, *h*, *m*, *n*. In spirits, young. Old collection.
e, *f*. In spirits, young. India. Presented by Gen. Th. Hardwicke.
g. In spirits, young. India. Presented by Capt. Stafford.
i—*k*. In spirits, very young. India. Presented by Gen. Th. Hardwicke.
l. An egg. India.
n. In spirits, young, not good state. Presented by Edward Cook, Esq.
o—*q*. Stuffed, young. Length 18 to 20 inches. India. Presented by Gen. Th. Hardwicke.
r. Stuffed. Length 54 inches. India.

The Large-headed Indian Crocodile. Crocodilus bombifrons, *Gray*, *D. C.* 32, *n.* 6, ined.

Face short, oblong, convex, rugose, pitted, without any ribs in front, sides only slightly converging, much swollen behind the notch, half as long again as the head behind, and at the 9th upper tooth as wide as from the back of the nose-hole to the orbit; forehead flat, with nearly parallel sides; nasal hole orbicular; suture of the intermaxillary straight, transverse; nasal hole round, back edge rather behind the middle of the notch of the canines.

a. Skull. Length 20 inches. India. Presented by Capt. Oriel.
b. Skull. Length 18 inches. India. From the Museum of the Royal Asiatic Society of Bengal.

In the Paris Museum there is a large specimen, not in a very good state, which has been described by Dumeril and Bibron, as an adult of *C. biporcatus*, which appears to belong to this species. It has 6 smallish cervical shields, and 6 series of small oval elongate shields, rather far apart, covering the upper part of the back; the sides are smooth, without any line of smaller shields. It is quite distinct from *C. palustris* of the same size, in having a broader muzzle, and in the size and form of the dorsal shields. It is immediately known from *C. porosus* by the breadth and convexity of the face.

** *Dorsal plates* 6*-rowed, the middle ones square, the side ones oblong, longer than broad, in equal series, the smaller plates on the sides in two longitudinal and nearly parallel series. Nuchal shields small. Muzzle convex, with* 2 *short diverging ridges in front.* Tropical America. Palinia.

The Aque Palin, (*Hernand*). Crocodilus rhombifer, *Cuv. Ann. Mus.* x. 51. *Oss. Foss.* v. *t.* 3, *f.* 1—4. *Tiedem. Amph.* 75, *t.* 10. *Gray, Syn.* 59. *Dum. et Bib. E. G.* iii. 97. *Sagra, H. Cuba, t.* 4.

Nape with small nuchal plates; cervical plates 6, four in the front row and two behind; scales of the sides of the neck and body tuberculose in the middle; the forehead with divergent sides, half as wide again as the muzzle at the front notch; muzzle convex, with two short diverging ridges in front of the eyes, at the 9th tooth one third as wide again as at the anterior notch, and two thirds the width of the space between the eyes and nose; scales of the middle of the back 6-rowed, square, close, of the sides oblong, square, the smaller plates on the sides in 2 short longitudinal series.

a. Stuffed, half grown. Cuba. From the Museum of the Jardin des Plantes, Paris. Sent there by M. Sagra.

*** *Dorsal plates square, as broad as long, the lateral dorsal series irregular, scattered. Nuchal and cervical plates variable.— Muzzle narrow, ridgeless; forehead of adult convex.* Tropical America. Motinia.

The American Crocodile. Crocodilus Americanus (Plumieri), *Schneid. Amph.* 167. *Seba*, i. *t.* 106, *f.* 1. C. acutus, *Geoff. Ann. Mus.* ii. 53, *t.* 57, *f.* 1, x. 67. *Cuv. Ann. Mus.* x. *Oss. Fos.* v. *t.* 1, *f.* 3—14, *t.* 2, *f.* 5. *Gray, Syn.* 60. *Dum. et Bib. E. G.* iii. 120. C. biscutatus, *Cuv. Ann. Mus.* x. *& Oss. Foss.* x, *t.* 2, *f.* 6. *Tiedem. Amph. t.* 12. La fouette queue, *Lacep. Hist. Q. O.* i. 240.

Muzzle slender, smooth, without any ridges in front of the eyes, rather swollen, convex, and rounded in the adult; dorsal shield square, 4-rowed; the lateral ones irregular and highest.

a. Stuffed, half grown. Length 31 inches. Trop. America. Mr. Warwick's collection.

b, g. In spirits, young. Length 12 inches. Dr. Mantell's collection.

c, d. In spirits, young. Length 18 inches. Cuba. Presented by W. S. MacLeay, Esq.

e. Skull and front part of back of adult. Nuchal shields 2 pair, in an arch; cervical shields 6, in a roundish group with 2 smaller ones between the group and the dorsal shield; forehead very convex. West coast of America. Presented by Capt. Sir Edward Belcher, R.N., C.B.

f. Skull of young. From Dr. Mantell's collection.

**** *Dorsal plates square, as broad as long, subequal, the smaller plates on the sides irregular, in two oblique ascending series. Nuchal shields* 4 *or* 6, *distinct. Muzzle triangular, with* 2 *more or less distinct short irregular ridges in front of the orbit.* Crocodilus.

The Margined Crocodile. Crocodilus marginatus, *Geoff. Croc. Egypt.* 165. C. vulgaris var. *Gray, Syn.* i. 58. *Dum. et Bib. E. G.* iii. 110.

Head elongate, oblong, triangular, rather convex, rounded, sides slightly swollen behind the notch, half as long again as the width of the head behind; muzzle at the first notch as wide as the forehead, and at the 9th tooth as wide as two thirds the distance between the eyes and nostrils; forehead deeply concave, with the sides high, prominent and nearly parallel; dorsal plates very strongly keeled.

a. Stuffed, adult. Length 9 feet 10 inches. South Africa. Presented by the Earl of Derby.
b. Stuffed, adult. Length 15 feet. South Africa.
c. Stuffed, adult. Length 14 feet. South Africa.

The Egyptian Crocodile. Crocodilus vulgaris, *Cuv. Ann. Mus.* x. 40, *t.* 1, *f.* 5—12, *t.* 2, *f.* 7. *Oss. Fos.* v. *t.* 1, *f.* 5, 12, *t.* 2, *f.* 7. *Tiedem. Amph. t.* 8. *Gray, Syn.* 57. *Dum. et Bib. E. G.* iii. 104. Lacerta Crocodilus, *Linn. S. N.* C. Champses, *Bory, Dict. Class. H. N.* v. 108. C. lacunosus, *Geoff.* C. complanatus, *Geoff.*

Head elongate, triangular, flat, smoothish above, narrow, tapering at the sides, nearly twice as long as the width of the head behind; muzzle at the notch nearly two thirds the width of the forehead, at the 9th tooth as wide as half the distance between the eyes and nostrils; forehead flat, with nearly parallel sides.

a. Adult, stuffed, bad state. Nuchal plates 6, cervical 8, the 4 in front small. Length 120 inches. N. Africa, Thebes. Presented by Sir Edwin Pearson.
b. Adult, stuffed, like *a*. Length 105 inches. N. Africa.
c. Half grown, stuffed, like *a*. Length 56 inches. N. Africa. C. vulgaris, *Bibron, MS.*
d. Half grown, stuffed. Nuchal plates 4, cervical 8, in 3 bands, hinder pair small. Length 60 inches. N. Africa.
e, g. Young, stuffed. Nuchal plates 4, cervical 6, in 2 bands, with a small one on the right side of the front. Length 40-41 inches. N. Africa?
f. Young, stuffed. Nuchal plates 4, cervical 8. Length 40 inches. N. Africa.
h. Young, stuffed. Nuchal plates 4, cervical 6, front of the dorsal disk rather narrow. Length 37 inches. N. Africa. Presented by Sir I. Gardnor Wilkinson.

i. Young, stuffed. Length 24 inches. N. Africa. Presented by Sir I. Gardnor Wilkinson.
j. Young, stuffed, not good state. Length 19 inches. Nuchal plates 4, cervical 6.
k. Half grown, stuffed. Face rather convex before the eyes. Length 60 inches. N. Africa.

The Muggar or Goa. Crocodilus palustris, *Lesson*, *Belanger*, *Voy*. 305. C. vulgaris, var. *Gray*, *Syn. Rept*. 58. *Dum. et Bib. E. G*. iii. 108. C. biporcatus, *Cuv. Oss. Foss*. v. *t*. 1, *f*. 4-(13?), skull. C. biporcatus raninus, *Muller*, *Ost. Ind. t*. 3, *f*. 7, (not *f*. 8).

Head elongate-oblong, triangular, convex and rugose above, with 2 short, irregular, nodulose, sinuous ridges in front of the orbit, sides rather swollen behind the notch, rather more than half as long again as the width of the head behind; muzzle at the first notch nearly two thirds the width of the forehead, at the 9th tooth as wide as two thirds the space between the eyes and nostrils; forehead concave, with the sides nearly parallel in the young and converging towards the front in the adult.

a. Half grown, stuffed. Nuchal plates 4, cervical 6. Length 63 inches. India. From Dr. Mantell's collection.
b. Half grown, stuffed. Length 56 inches. India.
c. Young, stuffed. Length 22 inches. India. Presented by Gen. Th. Hardwicke.
d. Skull of half grown animal. Length 12 inches. India.
e. Skull of adult. Length 26 inches, ("animal 33 feet"). Presented by Gibson Reeve, Esq.
f. Skull of adult. Length 23 inches. India.
g. Skull of adult. Length 21 inches. N. coast of Australia. Presented by Capt. Stokes, R.N.
h. Half grown, stuffed. Length 72 inches. Muzzle rather broader; shields strongly keeled. India?
i. Very young, in spirits. India. Presented by Gen. Th. Hardwicke.
k. Young, stuffed. Length 28 inches. From Mr. Miers' collection.
l. Shield and part of back of adult. Length 84 inches. India.

The largest in the Paris Museum is about 10 feet; muzzle at the 9th tooth much wider than in C. vulgaris.

The Wide-faced Crocodile. Crocodilus trigonops.

Nuchal plates 4; cervical 6, large, strongly keeled; head oblong, triangular, convex, rugose above, with 2 short, irregular, sinuous ridges in front of the orbit, and an oblong convexity upon each side, above the 9th tooth; sides of the face rather swollen behind the notch, rather more than half as long again as the width of the head behind; muzzle at the first notch nearly two thirds

the width of the forehead, at the 9th tooth nearly as wide as the space between the eye and nostrils; forehead nearly square.

a. Young, stuffed. Length 26 inches. India.
b. ? Young, stuffed. Length 30 inches. Muzzle rather more attenuated. Singapore.

In the College of Surgeons there is a skull of an animal almost twice the size of *a*, which exactly agrees with it in proportions and form. It differs from *C. palustris* in having a much wider, shorter, and more triangular head.

***** *Hind feet without any fringe.*

Graves's Crocodile. Crocodilus planirostris, *Graves*, *Ann. Sci. Phys.* ii. 348. *Gray*, *Syn. Rept.* 59. Crocodilus Gravesii, *Bory*, *Dict. Class. H. N.* v. 109. *Dum. et Bib. E. G.* iii. 101.

Muzzle short, depressed; dorsal plates furnished with recurved points; the hind feet webbed, but not toothed on the hinder edge.

Inhab. ——— ?

****** *Feet unknown. Skull with 2 central ridges, one behind the other.*

The Siamese Crocodile. Crocodilus Siamensis, *Schn. Amp.* 157. *Gray*, *Syn.* 6. C. galeatus, *Cuv. Ann. Mus.* x. 51, *t.* 1, *f.* 9. *Tiedem. Amph.* 76, *t.* 11. *Dum. et Bib. E. G.* iii. 113. *Hist. Acad. Sci.* iii. 255, *t.* 64. *Faujas*, *Mant. S. P. t.* 43. *Latr. Rept.* i. *t.*

Skull surmounted by two strong central triangular ridges, placed one before the other.

Siam. Only known from a skull in Mus. Paris?

Fam. II. Alligators, (Alligatoridæ).

Canine teeth of the lower jaw fitting into a pit in the edge of the upper jaw. New World.

Synopsis of the Genera.

1. Jacare. Jaws oblong, depressed, with a ridge across the face between the eyes. Hind feet scarcely webbed. Nostrils with a cartilaginous septum. Eyelids fleshy.

2. Alligator. Jaws oblong, depressed, with a small longitudinal rib between the orbits. Hind feet webbed. Nostrils separated by a bony septum.

3. Caiman. Jaws oblong, depressed. Hind feet scarcely webbed. Nostrils a cartilaginous septum. Eyelids with 3 bony plates.

1. Jacare.

Head oblong, depressed, with a ridge across the face before the eyes, rounded in front. Teeth unequal, canines of lower jaw each fitting into a pit in the upper jaw. Toes scarcely webbed. Nuchal and cervical plates united into one group. Eyelids fleshy, only partially bony. Nostrils only separated by a cartilage.

* *Preorbital ridge to the edge of the jaw. Maxillary pits* 3-3. *Frontal ridge bent backward.*

The Broad-headed Yacare. Jacare fissipes. Caiman fissipes, *Spix*, *Braz. t.* 3. *Wagler*, *Icon. t.* 17. *Natterer*, *Ann. Mus. Vien.* 321, *t.* 22. A. sclerops, *Nieuweid*, *Abbild. t.* —— *Schinz. Rept. t.* 12. A. cynocephalus, *Dum. et Bib. E. G.* iii. 86. C. latirostris, *Daud.*

Head short, ovate, triangular; muzzle short, broad, thick, frontal ridge sinuate, preorbital ridge longitudinal, to the edge of the jaw; maxillary pits 3-3; upper part of the eyelid rugose; nape with 2 rows of shields; nuchal shields many, 3-rowed; cervical 8, in 3 rows; scales of the back square, rather sharply keeled, 4 on each of the three last cross bands; sides with some scattered larger keeled scales; back greenish, black-spotted.

a. Very young, in spirits. Trop. America.
b, *e*, *f.* Young, stuffed. Length 23—32 inches.
c. Nearly adult, stuffed. Length 59 inches. Brazils.
d. Adult, stuffed. Length 72 inches. Brazils.

The Yacare. Jacare sclerops. Crocodilus sclerops, *Schn. Amph.* 162. *Cuv. Ann. Mus.* x. *& Oss. Fos.* v. *t.* 1, *f.* 6, 7, *t.* 2, *f.* 3. *Tiedem. Amph.* 60, *t.* 5. *Guérin*, *Icon. t.* 2, *f.* 2, *&* 20. *Gray*,

Syn. 62. *Dum. et Bib.* iii. 79. *Wagler, Syst.* 140, *t.* 8, *f.* 1. *Natterer, Ann. Mus. Vien. t.* 23. C. Yacare, *Daud. Rept.* ii. 407. C. Americanus, *Laur. Seba, t.* 104, *f.* 10. C. Caiman, *Daud.*

Head elongate; muzzle flat, moderately enlarged, frontal ridge very slightly sinuate, preorbital ridge to the edge of the jaws; maxillary pits 3-3; upper part of the upper eyelids finely striated; nuchal shields many, in 2 series; cervical, small, oval, elevated much compressed scales, in 4 or 5 rows; dorsal plate obtusely keeled, the two vertebral series nearly flat, forming a groove; back black, with transverse yellow bands.

Inhabits Brazils.

The Black Yacare. Jacare nigra, *Spix, Braz. t.* 4. *Natterer, Ann. Mus. Vien.* i. 347, *t.* 21. Alligator Sclerops, var. *Gray, Syn.* 62.

Head ovate, triangular, depressed; muzzle elongate, broad, blunt; frontal ridge very slightly sinuated, preorbital oblique, to the edge of the jaw; maxillary pits 3-3; upper eyelid striated; nuchal shields many, in 3 series; cervical in 5 series; dorsal acutely keeled, the two lateral series higher, leaving a vertebral groove; black, with whitish spots, beneath white.

Inhab. Brazils. Mus. Vienna.

** *Preorbital ridge indistinct or none. Maxillary pits none.*

The Spotted Yacare. Jacare punctulatus, *Spix, Braz. t.* 2. Alligator punctulatus, *Dum. et Bib. E. G.* iii. 91. *Natterer, Ann. Mus. Vien.* i. 347, *t.* 25.

Head triangular, oblong, rather gibbous, muzzle elongate, attenuated, very flat, with a rounded point in front, a slight enlargement behind the nostrils; frontal ridge arched and slightly bent back; preorbital ridge none; maxillary pits none; upper part of the eyelid rugose; nape with 2 rows of plates; back flat, without any grooves or prominent keels, yellow, black-dotted; sides with some rows of larger scales; olive, dotted and varied with black, beneath yellowish.

Inhab. Brazils. Mus. Vienna.

Natterer's Yacare. Jacare vallifrons, *Natterer, Ann. Mus. Vien.* i. 322, *t.* 24.

Head triangular, oblong, rather gibbous; muzzle elongate, attenuated, frontal ridge bent forwards, preorbital ridge none; maxillary pits none; upper eyelid rugose; nuchal shields many, in 2 series; cervical obtusely keeled, in 5 bands; dorsal obtusely keeled; olive, dotted coarsely with black, beneath yellowish.

Inhab. Brazils. Mus. Vienna.

2. Alligator.

Jaws oblong, very depressed, broad, nearly parallel, rounded in front. Forehead with a small longitudinal ridge between the orbits. Teeth unequal, the lower canines received into a pit in the edge of the upper jaw. Nuchal and cervical plates separate. Feet fringed behind. Toes half-webbed, the outer front toe free. Nostrils separated by a bony septum arising from the upper edge. N. America. The muzzle elongates by age.

The Alligator. Alligator Missisipensis, *Gray*, *Syn.* 62. Crocodilus Missisipensis, *Daud. Rept.* ii. 412. C. Cuvieri, *Leach*, *Zool. Misc.* ii. 102, *t.* C. Lucius, *Cuv. Ann. Mus.* x. & *Oss. Fos.* v. *t.* 1, *f.* 8, *t.* 2, *f.* 4. *Tiedem. Amph.* 58, *t.* 4. *Merrem*, 34. *Dum. et Bib. E. G.* iii. 75, *t.* 25, 26. The Alligator, *Catesby*, *Carol. t.* 63.

In the young it is as long from the eyes to the nostrils, as the width of the muzzle at the 9th tooth, in the old specimens the distance is half as long again.

a. Stuffed. Length 38 inches. N. America. From Dr. Mantell's collection.
b. Stuffed. Length 45 inches. N. America. Presented by E. Doubleday, Esq.
c. Stuffed. Length 35 inches. N. America.
d, *e.* Very young, in spirits. N. America. From Dr. Mantell's collection.
f. Adult, stuffed. Length 84 inches. N. America.
g. Half grown, stuffed. Length 63 inches. N. America. A. Cuvieri, *Leach*, *Zool. Misc.* (the specimen figured).
h. Half grown. Length 66 inches. N. America.
i. Skeleton of young. N. America. From Dr. Mantell's collection.

3. Caiman.

Jaws oblong, depressed, subpyramidical, rounded and swollen at the end, without any frontal ridges or maxillary pits. Forehead flat, smooth. Teeth $\frac{19}{21}$, unequal, lower canine teeth fitting into a pit in the inner edge of the upper jaw. Eyebrows defended with 3 bony plates. Toes scarcely webbed. Nuchal and cervical plates united into one group? Trop. America.

The Trigonal Cayman. Caiman trigonatus. Crocodilus t. *Schn. Amph.* 161. *Seba*, *Thes.* i. *t.* 105, *f.* 3. *Tiedem. Amph. t.* 7. *Wagler*, *Syst.* 140. *Natterer*, *Ann. Mus. Vien.* i. 323, *t.* 26. *Shaw*, *Zool.* i. 58. Crocodilus palpebrosus, var. 2, *Cuv. Ann. Mus.* x. & *Oss. Foss.* v. *t.* 2, *f.* 1. *Gray*, *Syn.* 63. *Dum. et Bib. E. G.* iii. 72.

One row of nuchal plates, which are separated from the cervical plates by a line of slender pointed scales; head triangular, ob-

long, rather gibbous; muzzle elongate, attenuate, rather convex above; brown, black-banded, beneath whitish, black-varied.

a. Very young, in spirits.

The Eyebrowed Cayman. Caiman palpebrosus. Crocodilus palpebrosus, *Cuv. Ann. Mus.* x. *& Oss. Fos.* v. *t.* 2, *f.* 2. *Tiedem. Amph.* 16. *Gray, Syn.* 63. *Dum. et Bib. E. G.* iii. 69. *Wagler, Syst.* 140. *Natterer, Ann. Mus. Vien.* i. 324, *t.* 27. Lacerta crocodilus, *Blumenb. Handb.* 245. Jacaretinga moschifer, *Spix, Braz. t.* 1.

Two broad rows of plates on the nape; shields of the back slightly keeled, equal, the 14th and 15th cross rows on the back composed of 4 shields; head triangular, oblong, rather gibbous; muzzle elongate, attenuate, above rather convex.

Inhab. Brazils.

The Swollen-headed Cayman. Caiman gibbiceps. Champsa gibbiceps, *Natterer, Ann. Mus. Vienna*, l. 324, *t.* 28.

Head triangular, oblong, gibbous; muzzle elongate, attenuate, excavated above; nuchal shields many, in 2 rows, trigonal acute, cervical very acutely keeled, in 5 bands, the 2nd and 3rd bands of 3 shields, middle shield bicuspid, the rest in pairs; dorsal shields very acutely keeled; two vertebral series rather blunter; black-brown, beneath pale whitish varied.

Tropical America. Mus. Vienna.

Order V. AMPHISBÆNIANS, (AMPHISBÆNIA).

Body elongate, cylindrical, naked, with square imbedded plates placed in cross rings, divided into two sets by a slight longitudinal groove on each side. Tail short, continuous, blunt. Tongue not sheathed, flat, enlarged and nicked at the end, ending in 2 smooth threads, the rest covered with large flat papillæ or scales. Eyes small, under the skin; eyelid none. Ear hidden under the skin. Mouth small; jaws not extensile. Feet none, or rarely in front. Penis double. Vent rather transversely plaited. Skull very solid; orbits incomplete; tympanic bone inclosed in the skull, oblique; parietal bone simple; temporal and mastoid bones scarcely separate.

Synopsis of the Families.

A. *Teeth in the margin of the jaws.*

1. TRIGONOPHIDÆ. Limbs none.

B. *Teeth on the inner side of the jaws.*

2. AMPHISBÆNIDÆ. Limbs none. Body and chest covered with similar square shields. Preanal pores distinct.

3. CHIROTIDÆ. Limbs 2 anterior.

4. LEPIDOSTERNIDÆ. Limbs none. Chest covered with larger and differently shaped shields. Preanal pores none.

Fam. I. TRIGONOPHES, (TRIGONOPHIDÆ).

Teeth on the edge of the jaws, solidly fixed and nearly united to one another at their base, unequal, conical, rather compressed. Nostrils lateral, small, oval, pierced in the naso-rostral plate. Preanal pores none. Limbs none.

1. TRIGONOPHIS, *Kaup.*

Head short, conical, very blunt. Eyes distinct. Naso-rostral plate encasing the muzzle. Tail conical, short.

The ELEGANT TRIGONOPHE. Trigonophis Weigmanni, *Kaup. Isis*, 1830, 880. *Dum. et Bib. E. G.* v. 469. Amphisbæna elegans, *Gerv. Mag. Zool. t.* 11, (1835). *Ann. Sci. Nat.* vii. 311.

Body tessellated, black and white or yellow, head brown, with an oblique band across the temples; tail very short, conical; teeth 5 in the intermaxillaries, 10 on each side of the maxillaries, and 18 in the lower jaw.

a, *b*. Half grown, in spirits. Algiers. Presented by M. Bibron.

Fam. II. Amphisbænas, (Amphisbænidæ).

Teeth fixed on the inner side of the jaws, conical, simple and pointed. Nostrils lateral, small, in the naso-rostral plate. Body and chest covered with square similar sized shields, with a lateral line only. Nape with a longitudinal groove. Limbs none. Preanal pores distinct, (sometimes obliterated on one side). Tail short. Primary teeth $\frac{7}{7}$ or only $\frac{5}{5}$.

Synopsis of the Genera.

* *Nasal plates extending across the muzzle, with 2 pair of frontal plates behind them; first labial under the nasal.*

1. Amphisbæna. Head depressed, muzzle rounded, rostral shield triangular, flat, erect. Nasal 2, large, square, separate, extending across the muzzle.
2. Sarea. Head depressed, muzzle elongate, rounded, rostral shield triangular, inferior. Nasal 2, large, united together, extending across the muzzle.
3. Cynisca. Head flat, muzzle rather sharp, rostral shield triangular, erect. Nasal rhombic, oblique, touching above, in front.

** *Nasal plates 2, small, lateral, with a single large anterior frontal plate between them.*

4. Anops. Muzzle compressed, rostral shield forming an arched crest to the forehead, separating the small nasal plates, which are over the first labial and the anterior frontals. Tail cylindrical, truncate.
5. Cadea. Muzzle rather compressed, acute, rostral and anterior frontal shields flat, the latter moderate, elongate. Nasal plate over the first labial. Tail cylindrical, truncated.
6. Blanus. Muzzle depressed, rounded, the rostral and anterior frontal shields flat, the latter very broad. Nasal plate large, occupying the place of the first labial. Tail conical, acute.

1. Amphisbæna.

Head depressed, broad. Muzzle rounded. Nasal plates 2, large, broad, square, separate, extending across the muzzle; rostral triangular, flat (not soldered to the nasal); 2 pairs of frontal shields, the first pair broadest. Eyes distinct. Tail round, truncated. Preanal pores distinct.

* *Muzzle broad, rounded. Labial plates $\frac{1}{3}$, front lower high, narrow, triangular. Body thick, one coloured. Scales with a pellucid dot in the front edge.*

The White Amphisbæna. Amphisbæna alba, *Linn. Mus. Adolph.* 26, *t.* 4, *f.* 2. *Dum. et Bib. E. G.* v. 484. A. rosea, *Shaw, Nat. Mis.* iii. *t.* — A. pachyura, *Wolf. Abbild.* ii. 61, *t.* 17. A. flavescens, *Nieuweid, Abbild. t.* — *Wagler, Icon. t.* 16, *f.* 1. *Schinz. Amph.* 129, *t.* 46. Le Blanchet, *Lacep. Q.O.* ii. *t.* 21, *f.* 1.

White; tail with 16 or 20 rings; preanal pores 8 or 9; upper labial plates 3, first touching the rostral; orbital shield lozenge-shaped, over the suture of the second and third labial plates.

a. Adult, bleached, in spirits. Femoral pores 8; the shield in front of the cloaca 4-sided, elongate. Old collection.

b, c. Adult, in spirits. Femoral pores 6; the 2 centre shields in front of the cloaca narrow behind, the rest 4-sided, elongate. Brazils. From M. P. Clausen's collection.

** *Muzzle broad, rounded in front. Labial plates $\frac{3}{4}$, the front lower labial broad, triangular. Vertebral shields small. Body thick, black, white-varied.*

The Sooty Amphisbæna. Amphisbæna Americana, *Scheuch. P. S.* iv. 1179, *t.* 1129, *f.* D, *t.* 1249, *f.* 10. *Seba, Thes.* i. *t.* 18, *f.* 3; *t.* 22, *f.* 2, 3; *t.* 73, *f.* 4; *t.* 100, *f.* 3. A. fuliginosa, *Linn. L. S.* i. 392. *Daud. Rept. t.* 91, *f.* 2. *Dum. et Bib. E. G.* v. 480. A. vulgaris, A. varia, A. magnifica and A. flava, *Laur. Syn.* 119—122. *Guerin, Icon, t.* 18, *f.* 1. La enfumée, *Lacep. Q. O*, ii. 459.

Black and white varied; tail with 26, body 29 to 33 rings; preanal pores 8 or 9.

a. In spirits. First upper labial plate divided in half, second lower labial distinct. S. America.

b. In spirits. Second lower labial plate distinct. Demerara. Presented by Lieut. Friend, R.N.

c. In spirits, bleached. Vertebral plates rather large, irregular. S. America.

d. Adult, in spirits. Second lower labial indistinct. Berbice. Presented by Lady Essex.

e. In spirits. Lead-coloured, belly slightly white-spotted. Demerara. Presented by S. J. Woodward, Esq.

*** *Muzzle narrow, rounded. Body slender, brown, pale beneath.*

Petree's Amphisbæna. Amphisbæna Petrei, *Dum. et Bib. E. G.* v. 487.

Brown, paler beneath; tail with 26 or 28 rings; preanal pores 8; upper labial shields 3; preanal shields 10 or 12.

Inhab. Brazils. Mus. Paris.

The Worm-like Amphisbæna. Amphisbæna vermicularis, *Wagler*, *Bras.* 73, *t.* 25, *f.* 2. *Dum. et Bib. E. G.* v. 489.

Brown, beneath paler; tail with 22 rings; occiput and temple with 8 square plates on each side; labial scales $\frac{4}{3}$, hinder upper small, square, rest triangular; preanal pores 2 or 4; preanal plates 6, narrow, long, forming an arched line.

a. In spirits. Brazils. From M. P. Clausen's collection.

Darwin's Amphisbæna. Amphisbæna Darwinii, *Dum. et Bib. E. G.* v. 491.

Reddish brown, beneath paler; tail with 22 rings of plates; occiput with 2 subtriangular compartments; temple with 5 square scales; preanal pores 4 indistinct; preanal plates 6; labial plates $\frac{3}{3}$.

Inhab. Montevideo. Mus. Paris.

2. Sarea.

Head flat. Muzzle narrow acute. Eyes none. Rostral plates small, triangular; nasal rhombic; lateral touching one another at the front upper angle; 2 pair of frontal, the anterior pair elongate; occiput and temple with square scales. Body and chest with equal square scales. Preanal pores distinct. Tail truncated, blunt.

The Blind Amphisbæna. Sarea cæca. Amphisbæna cæca, *Cuv. R. A.* ii. 73. *Gray*, *Griffith*, *A. K.* ix. 67. *Dum. et Bib. E. G.* v. 492.

Pale reddish brown, darker spotted; eyes none; upper lip scales 3; tail with 15 or 16 whorls; preanal pores 4.

a. Adult, in spirits. Tail conical, blunt, perhaps reproduced. Porto Bello, W. Indies. Presented by Capt. Austen, R. N.

3. Cynisca.

Head flat, narrow. Muzzle conical, 4-sided, elongate, rounded at the end. Eyes distinct. Temple and occiput with large shields. Rostral plate triangular under the muzzle; rostro-nasal 2, very large, soldered, covering the whole of the front of the head. Body and chest with similar small shields. Preanal pores distinct. Tail round, truncated.

The White-tailed Amphisbæna. Cynisca leucura. Amphisbæna leucura, *Mus. Leyd. Dum. et Bib. E. G.* v. 498. A. macrura, *Schlegel*, *Mus. Leyd.*

Brown, end of the tail white; tail with 25 or 26 rings; preanal pores 20; upper labial plates 3-3.

Inhab. Guiana. Mus. Leyden.

4. Cadea.

Muzzle narrow, acute. Eyes indistinct. Rostral small, quadrangular, perpendicular, bent on the muzzle. Temple with square

scales. Body and chest with similar square shields. Preanal pores distinct. Tail truncated, blunt. Nasal plates small, lateral upon each side of a single large anterior frontal plate, and a pair of vertebral plates behind it; upper labial plates 4-4, the front under the nasal.

The Dotted Amphisbæna. Cadea punctata. Amphisbæna punctata, *Bell, Zool. Journ.* iii. 236, *t.* 20, *f.* 2. *Dum. et Bib. E. G.* v. 494. A. cæca, *Sagra, Cuba*, 195, *t.* 21.

Whitish, yellow-dotted; tail with 12 rings; preanal pores 4; upper labial plates 2-2.

a. In spirits. Cuba. Presented by W. S. MacLeay, Esq. The specimen described by Mr. Bell.

5. Anops, *Bell.*

Head compressed, slightly elevated. Eyes none. Temples with square scales. Rostral plate large, with an arched crest from the mouth to the forehead. Body and chest with similar equal scales. Preanal pores distinct. Tail truncated, blunt. Nasal plates small, lateral, over the first labial shield, separated by the single keeled anterior frontal plate.

King's Anops. Anops Kingii, *Bell, Proc. Zool. Soc.* 1833, 99. *Zool. Journ.* v. 391, *t.* 16, *f.* 1. Amphisbæna Kingii, *Dum. et Bib. E. G.* v. 497. Amph. galeata, *Mus. Berl.*

Chesnut brown; tail with 18 or 20 rings; preanal pores 4—6; upper labial plates 3-3.

Inhab. Buenos Ayres. Mus. Paris.

6. Blanus, *Wagler.*

Head depressed, flat. Muzzle short, rounded. Eyes distinct. Rostral plates 4-sided. Anterior frontal very broad, covering all the top of the forehead. Body and chest with similar square plates. Tail conical, prolonged into a point. Preanal pores distinct. Nasal plate large, square, occupying the place of the first labial. Vertebral and occipital plates square, similar, in pairs.

Vandelli's Amphisbæna. Amphisbæna cinerea, *Vandelli Mem. Acad. Lisb.* i. 69. *Gerv. Mag. Zool.* 1836, *t.* 10. *Dum. et Bib. E. G.* v. 500. A. oxyura, *Wagler. Spix, Braz.* 72, *t.* 35, *f.* 1. A. rufa, *Hemp. Berl. Gesell.* 1820, 130. B. rufus, *Wiegem. Arch.* 1836, 157.

Brown, head and intervals between the scales whitish; upper labial shields 2; tail with 19 or 20 rings; preanal pores 4-6.

a—f. In spirits. Xanthus. Presented by Chas. Fellowes, Esq.

Fam. III. Lepidosternons, (Lepidosternidæ).

Teeth fixed on the inner side of the jaws, conical, simple and pointed. Nostrils lateral, small, inferior, in a rostro-nasal plate. Chest covered with larger and differently shaped shields from the rest of the body. Limbs none. Preanal pores none. Tail short, truncated. Body with an impressed dorsal, ventral and lateral line, the latter the widest.

Synopsis of the Genera.

1. Lepidosternon. Head-plates 10 or 12.
2. Cephalopeltis. Head-plates 2, very large.

1. Lepidosternon, *Wagler.*

Head triangular, convex, covered with 10 or 12 shields. Chest with many plates of a different shape from those of the body. Tail cylindrical, truncated.

The Small-headed Lepidosternon. Lepidosternon microcephalum, *Wagler. Spix, Braz.* 70, *t.* 26. *Wagler, Icon. t.* 16, *f.* 1. *Muller. Tiedem. Mag. Phys.* iv. *t.* 22, *f.* 4. *Dum. et Bib. E. G.* v. 505. Amphisbæna punctata, *Nieuweid, Abbild. t* L. Maximilianum, *Weigmann.*

Yellow, back brown-spotted; head with 10 head-shields; chest with 10 long narrow shields; preanal shields 6; tail with 10 or 12 rings.

Inhabits Brazils. Mus. Munich.

The Dolphin-headed Lepidosternon. Lepidosternon phocæna, *Dum. et Bib. E. G.* v. 507.

Whitish, back brown-spotted; head with 12 shields; chest with numerous small rhombic shields; tail with 10 rings.

Inhab. Buenos Ayres. Mus. Paris.

2. Cephalopeltis, *Muller.*

Head covered with 2 large hood-like plates; chest covered with large shields; tail cylindrical, truncated.

The Cephalopeltis. Cephalopeltis scutigera. Cephalopeltis Cuvieri, *Muller, Zeitsch. Physiol.* iv. 253, *t.* 21, *f.* 6, 7; *t.* 22, *f.* 5. Amphisb. scutigera, *Hemp. Berlin Gesellsch.* 1820, 129. *Dum. et Bib. E. G.* v. 509. Lepidosternon Hemprichii, *Weigm.*

Whitish, brown-spotted; chest with 8 or 10 large shields; tail with 14 or 15 rings.

a. Adult, *b* Younger, in spirits. Brazils. From Dr. Gardner's collection.

Fam. III. Chirotes, (Chirotidæ).

Teeth conical, recurved, simple, pointed, unequal, separate, placed on the inner edge of the jaws. Nostrils in the naso-rostral plate. The front members short, weak, furnished with 5 subequal toes, one clawless. Preanal pores distinct. Tail short, cylindrical.

1. Chirotes, *Dumeril.* Bimanus, *Oppel.*

Toes 5. Head short, depressed, rounded in front. Rostral plate 4-sided, perpendicular; fronto-nasal and rostral large; frontal very small. Shields of the chest and body similar. Tail elongate, rounded at the end.

The Chirotes. Chirotes lumbricoides, *Flem. Ph. Zool.* ii. 278. C. canaliculatus, *Cuv. R. A. Merrem, Tent.* 181. C. Mexicain, *Bory.* Le Cannele, *Lacep. Q. O.* i. 613. Bipes canaliculatus, *Bonnat. Erp.* 68, *t.* 12, *f.* 6. Lacerta lumbricoides, *Shaw, Nat. Misc.* vi. L. Mexicana, *Donn. Zool. Beyt.* iii. 135. L. sulcata, *Suckow. Thier.* iii. 147. Chamæsurus propus, *Schinz.* Chalcides propus, *Daud, Rept.* iv. 372, *t.* 58, *f.* 4. Bimanus p. *Oppel.* 46.

Yellow, brown-spotted, whitish beneath.

a, *b*. In spirits. Mexico, " Brazils."

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ERRATA.

Page 26, *for* Emys macrocepha*lus*, *read* E. macrocepha*la*.
Page 62, *for* Gibson *Reeve*, *read* Gibson *Rowe*.
Page 72, *before* Amphisbæna cinereus, *add* Blanus cinereus.

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